REQUEST FOR PROPOSALS

TECHNICAL ASSISTANCE

FOR THE

MASEN CONCENTRATED SOLAR POWER PROJECT

Submission Deadline: **4:00 PM**

LOCAL TIME

NOVEMBER 11, 2011

Submission Place:

Nabil Saimi, PhD ABD, FRM
Chargé de mission / Executive Advisor
MASEN - Moroccan Agency for Solar Energy
Extention du siège de la CMR
Avenue Al Araar, Hay Riad
Rabat, Morocco
Tel +212 (0) 661 57 52 34
Fax +212 (0) 537 57 10 17
saimi@masen.ma

SEALED PROPOSALS SHALL BE CLEARLY MARKED AND RECEIVED PRIOR TO THE TIME AND DATE SPECIFIED ABOVE. PROPOSALS RECEIVED AFTER SAID TIME AND DATE WILL NOT BE ACCEPTED OR CONSIDERED.

N.B.: Any and all questions pertaining to the RFP should be sent to Nina Patel, USTDA, 1000 Wilson Blvd, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009, npatel@ustda.gov

REQUEST FOR PROPOSALS

Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US$651,886 to the Moroccan Agency for Solar Energy (MASEN) (the "Grantee") in accordance with a grant agreement dated May 30, 2011 (the "Grant Agreement"). USTDA has provided a grant to the Grantee to perform the MASEN Concentrated Solar Power Project Technical Assistance. The Grant Agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to perform the Technical Assistance.

1.1 BACKGROUND SUMMARY

Morocco relies very heavily on imported sources of energy, particularly coal and oil, to meet more than 97% of the country's energy needs. The costs of energy imports strain the country's trade balance and, coupled with subsidies to moderate domestic energy prices, test its capacity to avoid budget deficits. In 2011, Morocco's gross domestic product (GDP) is expected to increase by 6.7% (up from the five year average of 5.3%), contributing to the demand for energy that continues to rise by approximately 7% per year while capacity grows at only half that rate.

At the same time, Morocco has vast renewable energy resources that have largely gone untapped, particularly in solar energy. Recognizing the critical need to develop its domestic solar energy base, the Government of Morocco (GOM) launched the national Moroccan Plan for Solar Energy ("Solar Plan") in November 2009, as part of a broader national renewable energy strategy. The Solar Plan calls for developing a minimum of 2GW of solar power generation capacity by 2020. The GOM is highly committed to the development of solar energy and is moving very quickly to implement the Solar Plan.

In March 2010, the GOM established MASEN as the state-owned agency responsible for the development of the Solar Plan. MASEN is jointly owned in equal parts (25%) by the GOM, the National Office of Electricity (ONE), the Moroccan Hassan II Fund for Economic and Social Development, and the Moroccan Energy Investment Company (SIE) (a sovereign wealth fund dedicated to renewable energy created from privatization proceeds). MASEN's directive is to design and conduct the public procurement processes for Build-Own-Operate-Transfer power plants under an independent power producer (IPP) model with 25 year power purchase agreements (PPA) in different locations within the Moroccan national territory. The government has selected five sites for the Moroccan Solar Plan, with the 500 MW complex near the southern city of Ouarzazate as the first site under development. Ouarzazate will become an operational "test bed" of various solar technologies operated at commercial scale under desert conditions.

After an open tender was conducted by MASEN in 2010, CSP Parabolic Trough technology was selected for Phase I of the 500 MW Ouarzazate complex. One of the subsequent phases of the Ouarzazate complex will be dedicated to CSP Tower technologies.

The purpose of the Technical Assistance is to assist MASEN with the design and development of the CSP Tower phase of the Ouarzazate complex.

The Technical Assistance will be focused on the development of minimum functional and performance specifications as part of the tender documents for a CSP Tower procurement. In order to prepare the specifications for the tender, the Technical Assistance will include an analysis of existing CSP Tower technologies, most notably, their state of development, benchmarked performance between the different tower technologies and other thermal solar technologies, investment and operational cost, associated risks both during construction and operation, suitability to grid conditions, land requirement, water usage, cooling options and environmental impacts. The Technical Assistance will also provide recommendations on the optimal plant configuration in term of plant size and capacity of integrated storage at a level of detail sufficient to draft the minimum functional and performance specifications for tendering.

Portions of a background Definitional Mission are provided for reference in Annex 2.

1.2 OBJECTIVE

The Terms of Reference (TOR) for this Technical Assistance are attached as Annex 5.

1.3 PROPOSALS TO BE SUBMITTED

Technical proposals are solicited from interested and qualified U.S. firms. The administrative and technical requirements as detailed throughout the Request for Proposals (RFP) will apply. Specific proposal format and content requirements are detailed in Section 3.

The amount for the contract has been established by a USTDA grant of US$651,886. **The USTDA grant of US$651,886 is a fixed amount. Accordingly, COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted**. Upon detailed evaluation of technical proposals, the Grantee shall select one firm for contract negotiations.

1.4 CONTRACT FUNDED BY USTDA

In accordance with the terms and conditions of the Grant Agreement, USTDA has provided a grant in the amount of US$651,886 to the Grantee. The funding provided under the Grant Agreement shall be used to fund the costs of the contract between the Grantee and the U.S. firm selected by the Grantee to perform the TOR. The contract must include certain USTDA Mandatory Contract Clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA Mandatory Contract Clauses are attached at Annexes 3 and 4, respectively, for reference.

Section 2: INSTRUCTIONS TO OFFERORS

2.1 PROJECT TITLE

The project is called the MASEN Concentrated Solar Power Project.

2.2 DEFINITIONS

Please note the following definitions of terms as used in this RFP.

The term "Request for Proposals" means this solicitation of a formal technical proposal, including qualifications statement.
The term "Offeror" means the U.S. firm, including any and all subcontractors, which responds to the RFP and submits a formal proposal and which may or may not be successful in being awarded this procurement.

2.3 DEFINITIONAL MISSION REPORT

USTDA sponsored a Definitional Mission to address technical, financial, sociopolitical, environmental and other aspects of the proposed project. Portions of the report are attached at Annex 2 for background information only. Please note that the TOR referenced in the report are included in this RFP as Annex 5.

2.4 EXAMINATION OF DOCUMENTS

Offerors should carefully examine this RFP. It will be assumed that Offerors have done such inspection and that through examinations, inquiries and investigation they have become familiarized with local conditions and the nature of problems to be solved during the execution of the Technical Assistance.

Offerors shall address all items as specified in this RFP. Failure to adhere to this format may disqualify an Offeror from further consideration.

Submission of a proposal shall constitute evidence that the Offeror has made all the above mentioned examinations and investigations, and is free of any uncertainty with respect to conditions which would affect the execution and completion of the Technical Assistance.

2.5 PROJECT FUNDING SOURCE

The Technical Assistance will be funded under a grant from USTDA. The total amount of the grant is not to exceed US$651,886.

2.6 RESPONSIBILITY FOR COSTS

Offeror shall be fully responsible for all costs incurred in the development and submission of the proposal. Neither USTDA nor the Grantee assumes any obligation as a result of the issuance of this RFP, the preparation or submission of a proposal by an Offeror, the evaluation of proposals, final selection or negotiation of a contract.

2.7 TAXES

Offerors should submit proposals that note that in accordance with the USTDA Mandatory Contract Clauses, USTDA grant funds shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in the Host Country.

2.8 CONFIDENTIALITY

The Grantee will preserve the confidentiality of any business proprietary or confidential information submitted by the Offeror, which is clearly designated as such by the Offeror, to the extent permitted by the laws of the Host Country.

2.9 ECONOMY OF PROPOSALS

Proposal documents should be prepared simply and economically, providing a comprehensive yet concise description of the Offeror's capabilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of content.

2.10 OFFEROR CERTIFICATIONS

The Offeror shall certify (a) that its proposal is genuine and is not made in the interest of, or on behalf of, any undisclosed person, firm, or corporation, and is not submitted in conformity with, and agreement of, any undisclosed group, association, organization, or corporation; (b) that it has not directly or indirectly induced or solicited any other Offeror to put in a false proposal; (c) that it has not solicited or induced any other person, firm, or corporation to refrain from submitting a proposal; and (d) that it has not sought by collusion to obtain for itself any advantage over any other Offeror or over the Grantee or USTDA or any employee thereof.

2.11 CONDITIONS REQUIRED FOR PARTICIPATION

Only U.S. firms are eligible to participate in this tender. However, U.S. firms may utilize subcontractors from the Host Country for up to 20 percent of the amount of the USTDA grant for

specific services from the TOR identified in the subcontract. USTDA's nationality requirements, including definitions, are detailed in Annex 3.

2.12 LANGUAGE OF PROPOSAL

All proposal documents shall be prepared and submitted in English, and only English.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

The **Cover Letter** in the proposal must be addressed to:

Nabil Saimi, PhD ABD, FRM
Chargé de mission / Executive Advisor
MASEN - Moroccan Agency for Solar Energy
Extention du siège de la CMR
Avenue Al Araar, Hay Riad
Rabat, Morocco
Tel +212 (0) 661 57 52 34
Fax +212 (0) 537 57 10 17
saimi@masen.ma

An Original and eight (8) copies of your proposal must be received at the above address no later than 4:00 PM (Local Time), on November 11, 2011.

Proposals may be either sent by mail, overnight courier, or hand-delivered. Whether the proposal is sent by mail, courier or hand-delivered, the Offeror shall be responsible for actual delivery of the proposal to the above address before the deadline. Any proposal received after the deadline will be returned unopened. The Grantee will promptly notify any Offeror if its proposal was received late.

Upon timely receipt, all proposals become the property of the Grantee.

2.14 PACKAGING

The original and each copy of the proposal must be sealed to ensure confidentiality of the information. The proposals should be individually wrapped and sealed, and labeled for content including the name of the project and designation of "original" or "copy number x." The original and eight (8) copies should be collectively wrapped and sealed, and clearly labeled, including the contact name and the name of the project.

Neither USTDA nor the Grantee will be responsible for premature opening of proposals not properly wrapped, sealed and labeled.

2.15 OFFEROR'S AUTHORIZED NEGOTIATOR

The Offeror must provide the name, title, address, telephone number, e-mail address and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

2.16 AUTHORIZED SIGNATURE

The proposal must contain the signature of a duly authorized officer or agent of the Offeror empowered with the right to bind the Offeror.

2.17 EFFECTIVE PERIOD OF PROPOSAL

The proposal shall be binding upon the Offeror for **NINETY** (90) days after the proposal due date, and Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal.

2.18 EXCEPTIONS

All Offerors agree by their response to this RFP announcement to abide by the procedures set forth herein. No exceptions shall be permitted.

2.19 OFFEROR QUALIFICATIONS

As provided in Section 3, Offerors shall submit evidence that they have relevant past experience and have previously delivered advisory, feasibility study and/or other services similar to those required in the TOR, as applicable.

2.20 RIGHT TO REJECT PROPOSALS

The Grantee reserves the right to reject any and all proposals.

2.21 PRIME CONTRACTOR RESPONSIBILITY

Offerors have the option of subcontracting parts of the services they propose. The Offeror's proposal must include a description of any anticipated subcontracting arrangements, including the name, address, and qualifications of any subcontractors. USTDA nationality provisions apply to the use of subcontractors and are set forth in detail in Annex 3. The successful Offeror shall cause appropriate provisions of its contract, including all of the applicable USTDA Mandatory Contract Clauses, to be inserted in any subcontract funded or partially funded by USTDA grant funds.

2.22 AWARD

The Grantee shall make an award resulting from this RFP to the best qualified Offeror, on the basis of the evaluation factors set forth herein. The Grantee reserves the right to reject any and all proposals received.

2.23 COMPLETE SERVICES

The successful Offeror shall be required to (a) provide local transportation, office space and secretarial support required to perform the TOR if such support is not provided by the Grantee; (b) provide and perform all necessary labor, supervision and services; and (c) in accordance with best technical and business practice, and in accordance with the requirements, stipulations, provisions and conditions of this RFP and the resultant contract, execute and complete the TOR to the satisfaction of the Grantee and USTDA.

2.24 INVOICING AND PAYMENT

Deliverables under the contract shall be delivered on a schedule to be agreed upon in a contract with the Grantee. The Contractor may submit invoices to the designated Grantee Project Director in accordance with a schedule to be negotiated and included in the contract. After the Grantee's approval of each invoice, the Grantee will forward the invoice to USTDA. If all of the requirements of USTDA's Mandatory Contract Clauses are met, USTDA shall make its respective disbursement of the grant funds directly to the U.S. firm in the United States. All payments by USTDA under the Grant Agreement will be made in U.S. currency. Detailed provisions with respect to invoicing and disbursement of grant funds are set forth in the USTDA Mandatory Contract Clauses attached in Annex 4.

Section 3: PROPOSAL FORMAT AND CONTENT

To expedite proposal review and evaluation, and to assure that each proposal receives the same orderly review, all proposals must follow the format described in this section.

Proposal sections and pages shall be appropriately numbered and the proposal shall include a Table of Contents. Offerors are encouraged to submit concise and clear responses to the RFP. Proposals shall contain all elements of information requested without exception. Instructions regarding the required scope and content are given in this section. The Grantee reserves the right to include any part of the selected proposal in the final contract.

The proposal shall consist of a technical proposal only. A cost proposal is NOT required because the amount for the contract has been established by a USTDA grant of US$651,886, which is a fixed amount.

Offerors shall submit one (1) original and eight (8) copies of the proposal. Proposals received by fax cannot be accepted.

Each proposal must include the following:

Transmittal Letter,
Cover/Title Page,
Table of Contents,
Executive Summary,
Firm Background Information,
Completed U.S. Firm Information Form,
Organizational Structure, Management Plan, and Key Personnel,
Technical Approach and Work Plan, and
Experience and Qualifications.

Detailed requirements and directions for the preparation of the proposal are presented below.

3.1 EXECUTIVE SUMMARY

An Executive Summary should be prepared describing the major elements of the proposal, including any conclusions, assumptions, and general recommendations the Offeror desires to make. Offerors are requested to make every effort to limit the length of the Executive Summary to no more than five (5) pages.

3.2 U.S. FIRM INFORMATION

A U.S. Firm Information Form in .pdf fillable format is attached to this RFP in Annex 6. The Offeror must complete the U.S. Firm Information Form and include the completed U.S. Firm Information Form with its proposal.

3.3 ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL

Describe the Offeror's proposed project organizational structure. Discuss how the project will be managed including the principal and key staff assignments for this Technical Assistance. Identify the Project Manager who will be the individual responsible for this project. The Project Manager shall have the responsibility and authority to act on behalf of the Offeror in all matters related to the Technical Assistance.

Provide a listing of personnel (including subcontractors) to be engaged in the project, including both U.S. and local subcontractors, with the following information for key staff: position in the project; pertinent experience, curriculum vitae; other relevant information. If subcontractors are to be used, the Offeror shall describe the organizational relationship, if any, between the Offeror and the subcontractor.

A manpower schedule and the level of effort for the project period, by activities and tasks, as detailed under the Technical Approach and Work Plan shall be submitted. A statement confirming the availability of the proposed project manager and key staff over the duration of the project must be included in the proposal.

3.4 TECHNICAL APPROACH AND WORK PLAN

Describe in detail the proposed Technical Approach and Work Plan (the "Work Plan"). Discuss the Offeror's methodology for completing the project requirements. Include a brief narrative of the Offeror's methodology for completing the tasks within each activity series. Begin with the information gathering phase and continue through delivery and approval of all required reports.

Prepare a detailed schedule of performance that describes all activities and tasks within the Work Plan, including periodic reporting or review points, incremental delivery dates, and other project milestones.

Based on the Work Plan, and previous project experience, describe any support that the Offeror will require from the Grantee. Detail the amount of staff time required by the Grantee or other participating agencies and any work space or facilities needed to complete the Technical Assistance.

3.5 EXPERIENCE AND QUALIFICATIONS

Provide a discussion of the Offeror's experience and qualifications that are relevant to the objectives and TOR for the Technical Assistance. If a subcontractor(s) is being used, similar

information must be provided for the prime and each subcontractor firm proposed for the project. The Offeror shall provide information with respect to relevant experience and qualifications of key staff proposed. The Offeror shall include letters of commitment from the individuals proposed confirming their availability for contract performance.

As many as possible but not more than six (6) relevant and verifiable project references must be provided for each of the Offeror and any subcontractor, including the following information:

Project name,
Name and address of client (indicate if joint venture),
Client contact person (name/ position/ current phone and fax numbers),
Period of Contract,
Description of services provided,
Dollar amount of Contract, and
Status and comments.

Offerors are strongly encouraged to include in their experience summary primarily those projects that are similar to the Technical Assistance as described in this RFP.

Section 4: AWARD CRITERIA

Individual proposals will be initially evaluated by a Procurement Selection Committee of representatives from the Grantee. The Committee will then conduct a final evaluation and completion of ranking of qualified Offerors. The Grantee will notify USTDA of the best qualified Offeror, and upon receipt of USTDA's no-objection letter, the Grantee shall promptly notify all Offerors of the award and negotiate a contract with the best qualified Offeror. If a satisfactory contract cannot be negotiated with the best qualified Offeror, negotiations will be formally terminated. Negotiations may then be undertaken with the second most qualified Offeror and so forth.

The selection of the Contractor will be based on the following criteria:

1. Firms' experience in preparing feasibility studies for large scale energy infrastructure projects: 25 points maximum

2. Firms' experience with CSP Tower Plants and Engineering: 35 points maximum

3. Experience with analyzing local supply and manufacturing capabilities and economics in a range of industries: 20 points maximum

4. Experience in the Middle East and North Africa region with other large-scale infrastructure projects: 10 points maximum

5. Ability to perform the work in the French language: 10 points maximum

Proposals that do not include all requested information may be considered non-responsive.

Price will not be a factor in contractor selection.

ANNEX 1

NABIL SAIMI, PhD, CHARGE DE MISSION/EXECUTIVE ADVISOR, MASEN – MOROCCAN AGENCY FOR SOLAR ENERGY, EXTENTION DU SIEGE DE LA CMR, AVENUE AL ARAAR, HAY RIAD, RABAT, MOROCCO, TEL +212 (0) 661 57 52 34, FAX +212 (0) 537 57 10 17, SAIMI@MASEN.MA

MOROCCO: TECHNICAL ASSISTANCE: MASEN CONCENTRATED SOLAR POWER PROJECT

POC: Nina Patel, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. Morocco: Technical Assistance: MASEN Concentrated Solar Power Project. The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms that are qualified on the basis of experience and capability to develop technical assistance for the Morocco: MASEN Concentrated Solar Power Project.

Morocco relies very heavily on imported sources of energy, particularly coal and oil, to meet more than 97% of the country's energy needs. The costs of energy imports strain the country's trade balance and, coupled with subsidies to moderate domestic energy prices, test its capacity to avoid budget deficits. In 2011, Morocco's gross domestic product (GDP) is expected to increase by 6.7% (up from the five year average of 5.3%), contributing to the demand for energy that continues to rise by approximately 7% per year while capacity grows at only half that rate.

At the same time, Morocco has vast renewable energy resources that have largely gone untapped, particularly in solar energy. Recognizing the critical need to develop its domestic solar energy base, the Government of Morocco (GOM) launched the national Moroccan Plan for Solar Energy ("Solar Plan") in November 2009, as part of a broader national renewable energy strategy. The Solar Plan calls for developing a minimum of 2GW of solar power generation capacity by 2020. The GOM is highly committed to the development of solar energy and is moving very quickly to implement the Solar Plan.

In March 2010, the GOM established MASEN as the state-owned agency responsible for the development of the Solar Plan. MASEN is jointly owned in equal parts (25%) by the GOM, the National Office of Electricity (ONE), the Moroccan Hassan II Fund for Economic and Social Development, and the Moroccan Energy Investment Company (SIE) (a sovereign wealth fund dedicated to renewable energy created from privatization proceeds). MASEN's directive is to design and conduct the public procurement processes for Build-Own-Operate-Transfer power plants under an independent power producer (IPP) model with 25 year power purchase agreements (PPA) in different locations within the Moroccan national territory. The government has selected five sites for the Moroccan Solar Plan, with the 500 MW complex near the southern city of Ouarzazate as the first site under development. Ouarzazate will become an operational "test bed" of various solar technologies operated at commercial scale under desert conditions.

After an open tender was conducted by MASEN in 2010, CSP Parabolic Trough technology was selected for Phase I of the 500 MW Ouarzazate complex. One of the subsequent phases of the Ouarzazate complex will be dedicated to CSP Tower technologies.

The purpose of the Technical Assistance is to assist MASEN with the design and development of the CSP Tower phase of the Ouarzazate complex.

The Technical Assistance will be focused on the development of minimum functional and performance specifications as part of the tender documents for a CSP Tower procurement. In order to prepare the specifications for the tender, the Technical Assistance will include an analysis of existing CSP Tower technologies, most notably, their state of development, benchmarked performance between the different tower technologies and other thermal solar technologies, investment and operational cost, associated risks both during construction and operation, suitability to grid conditions, land requirement, water usage, cooling options and environmental impacts. The Technical Assistance will also provide recommendations on the optimal plant configuration in term of plant size and capacity of integrated storage at a level of detail sufficient to draft the minimum functional and performance specifications for tendering.

The U.S. firm selected will be paid in U.S. dollars from a $651,886 grant to the Grantee from the U.S. Trade and Development Agency (USTDA).

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and a background definitional mission/desk study report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to: https://www.ustda.gov/businessopps/rfpform.asp. Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax, please include your firm's name, contact person, address, and telephone number. Some firms have found that RFP materials sent by U.S. mail do not reach them in time for preparation of an adequate response. Firms that want USTDA to use an overnight delivery service should include the name of the delivery service and your firm's account number in the request for the RFP. Firms that want to send a courier to USTDA to retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests for fax verification. Requests for RFPs received before 4:00 PM will be mailed the same day. Requests received after 4:00 PM will be mailed the following day. Please check with your courier and/or mail room before calling USTDA.

Only U.S. firms and individuals may bid on this USTDA financed activity. Interested firms, their subcontractors and employees of all participants must qualify under USTDA's nationality requirements as of the due date for submission of qualifications and proposals and, if selected to carry out the USTDA-financed activity, must continue to meet such requirements throughout the duration of the USTDA-financed activity. All goods and services to be provided by the selected firm shall have their nationality, source and origin in the U.S. or host country. The U.S. firm may use subcontractors from the host country for up to 20 percent of the USTDA grant amount. Details of USTDA's nationality requirements and mandatory contract clauses are also included in the RFP.

Interested U.S. firms should submit their Proposal in English directly to the Grantee by **4:00 PM, November 11, 2011** at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject any and/or all Proposals. The Grantee also reserves the right to contract with the selected firm for subsequent work related to the project. The Grantee is not bound to pay for any costs associated with the preparation and submission of Proposals.

ANNEX 2

DEFINITIONAL MISSION FOR CLEAN ENERGY PROJECTS IN MOROCCO

Project #1- Renewable Electricity Generation – 125 MW CSP Tower plant

A. Project Description

Project Summary Information	
Host Country	MOROCCO
Project Name	Ouarzazate
Sector	Renewable Energy
Region	North Africa
Project Location	East Morocco
Total Capital Requirement	125 MW CSP Tower Power Plant — Million USD Steam Cycle — 95 Collector Field — 237 Molten Salt System — 215 Balance of Plant — 69 TOTAL — **616**
Potential US Exports	Direct $ 239 million Indirect $ 717 million (additional CSP plants in Moroccan Solar Plan)
Grant Amount	$651,886
Grantee	MASEN (Moroccan Agency for Solar Energy)

[redacted]

The project sponsor is the Moroccan Agency for Solar Energy "MASEN", founded in March 2010 under the law 57/09. MASEN is structured as a joint stock company, publicly funded, by the Moroccan government. l'Office National de l'Electricité (ONE), Hassan II funds and Société d'investissement énergétique (SIE) constitute its shareholders each holding 25% of the company. MASEN's current structure is defined by the law 57/09. MASEN employs approximately 25 people and they expect to employ 45 people by December 2011.

MASEN is responsible for the development of the Moroccan Solar Program. The integrated Moroccan Solar Plan aims to develop a minimum capacity of 2,000 MW of solar by 2020. MASEN designs and conducts the public procurement processes for Build-Own-Operate-Transfer (BOOT) power plants under an IPP model with 25 year Power Purchase Agreements (PPA) in different locations within the Moroccan national territory. The government has allocated five sites for the Moroccan Solar Plan: Ouarzazate, Ain Beni Mathar, Foum el Ouad, Boujdour and Sebkhat Tah. The 500 MW Ouarzazate complex is the first site under development.

The government of Morocco has tasked MASEN with commissioning the first power plants at the Ouarzazate complex by 2015. Ouarzazate will become an operational "test bed" of various solar technologies operated at commercial scale under desert conditions.

In 2010, MASEN conducted the Phase I tender for the Ouarzazate complex. This included Expression of Interest, Pre-Qualification and Technical & Financial review stages. In December 2010, four consortia were shortlisted and MASEN is currently conducting the Technical & Financial review in order to select the finalist for the 125 MW CSP parabolic trough power plant.

The financing of Phase I is expected to be in the order of $1 billion. MASEN conducts regular meetings with five International Financial Institutions (IFIs) who have committed to financing Phase I. The consortia is lead by the World Bank and includes the African Development Bank (AfDB), the European Investment Bank (EIB), the French Development Agency (AFD) and the German Economic Development Bank (KfW). The precise financing structure has yet to be determined, but the banks are driving the process regarding project documentation, as ultimately their Boards must approve the loans. The intent is for the IFIs to lend the funds to MASEN, who in turn would re-lend them to the IPP as equity, debt and mezzanine finance. MASEN intends to take a 10-20% equity position in the IPP for Phase I. Carbon Finance will also be considered.

Additionally, ONE and SIE,a sovereign fund dedicated to renewables created from privatization proceeds, may also provide some form of financing for Phase I. Since there is no eed-in tariff in Morocco, in order for the project to be bankable, it is expected that the Ministry of Finance will finance the "gap" – the difference in the electricity offtake price for the IPP and the current price of electricity in Morocco. MASEN will be using a unique "double PPA" model where one PPA will be signed between MASEN and the IPP and the second PPA will be signed between MASEN and ONE.

In order to prepare for the 125MW Ouarzazate Phase I tender, a considerable number of technical studies were performed by Moroccan and international engineering companies. Additionally MASEN retained the International Finance Corporation (IFC) as an advisor for the Phase I tender.

MASEN is now preparing the tendering process for the next CSP-Tower Phase at Ouarzazate and they are seeking technical assistance to evaluate the potential technologies and prepare for the tender process. MASEN has decided that one of the future phases will be exclusively dedicated to Concentrating Solar Power (CSP) Tower technology with inherent storage. Three of the top four CSP Tower companies are U.S. companies and the fourth is the Spanish company Abengoa.

Beyond the development of solar power plants, the Moroccan Solar Program aims to:

- Endow the country with a competitive industrial network to maximize the local industrial contribution to the development of solar power plants;
- Enhance research and development that would help monitor and develop solar technologies;
- Develop specialized training programs in order to meet the various needs of the sector.

MASEN has as a macro objective regarding the development of a solar industry, in addition to the development of solar power plants. This includes industrial integration, research and development as well as the promotion of solar technologies in Morocco. The actions of MASEN are driven by three major objectives in the field of the solar energy: 1) to develop power plants, 2) to contribute to the development of national expertise in solar and 3) to be a respected driver of regional and international solar plans.

MASEN intervenes in all aspects and stages of solar project development: study/research, design, financing, realization, as well as the tendering process management in order to ensure the site selected best fits a particular solar technology. MASEN also intends to define the technical and financial structuring characteristics of the project; and to select the actors who are the most qualified and apt to meet the technical and institutional requirements that have been defined to deliver optimal performance and profitability.

The purpose of the proposed Technical Assistance is to assist MASEN with the design and development the technical tender documents for the CSP-Tower Phase of the 500MW Ouarzazate solar complex. One of the next phases within the Ouarzazate solar complex will be exclusively dedicated to CSP Tower technologies with an expected plant capacity to be determined as an output of this technical assistance. As the Phase I open tender resulted in the selection of CSP Parabolic Trough technology proposals, MASEN is committed to exploring the long range advantages of Tower technologies for use in Morocco through the Phase II procurement. If CSP Tower technology is proven viable at Ouarzazate, the technology could easily represent 30% of the total Moroccan Solar Plan bringing 600MW of opportunities to US providers of CSP Tower solutions with inherent storage.

The Technical Assistance will be focused on detailing site specific parameters, including site infrastructure, grid interconnection and water supply. Additionally the Technical Assistance will analyze issues specific to CSP Tower technologies, such as cooling and storage in order to develop minimum functional and performance specifications for the tender document. MASEN is structuring the CSP-Tower Phase tender around an optimal capacity to be determined as an output of this technical assistance which will include storage capabilities (The final capacity is an output of the analysis that the Contractor will conduct, however for the purposes of calculating US exports GreenMax uses a conservative 125MW power plant). The Technical Assistance will also contribute to the development of the technical tender documents (MFPS), and therefore a critical component of the Technical Assistance will be the development of comparison tools and an evaluation methodology to analyze bid proposals submitted to the Phase II tender.

MASEN is confident that they could ultimately become a successful developer and operator of Moroccan CSP plants. The strength of MASEN is that its power group has licenses for both generation and off-take agreements with ONE. Since ONE is a 25% shareholder in MASEN, there is government assurance that all power produced can be accepted by the grid. Additionally, the Ministry of Finance has agreed to finance the gap in the electricity price required by the IPP for the project to be bankable and the current price of electricity in Morocco.

It is important to note that 2,000 MW of solar will represent 14% of the total installed 2020 generation capacity in Morocco. This is an enormous amount of power for the economy to be dependent upon and therefore technology selection is critical to the security of power supply. Power plant uptime and storage are critical for grid and demand management, as CSP Tower technologies are perceived as riskier than CSP Parabolic Trough technologies.

1.1 [redacted]

The CSP Tower phase power plant will be located in Ouarzazate in Eastern Morocco in an area characterized by excellent solar potential (DNI of approximately 2,800). The site is close to the city of Ouarzazate (Figure 1). Grid connection would be to the 220kV line (Figure 2). The site was proposed to MASEN by the National Electricity Company (ONE).

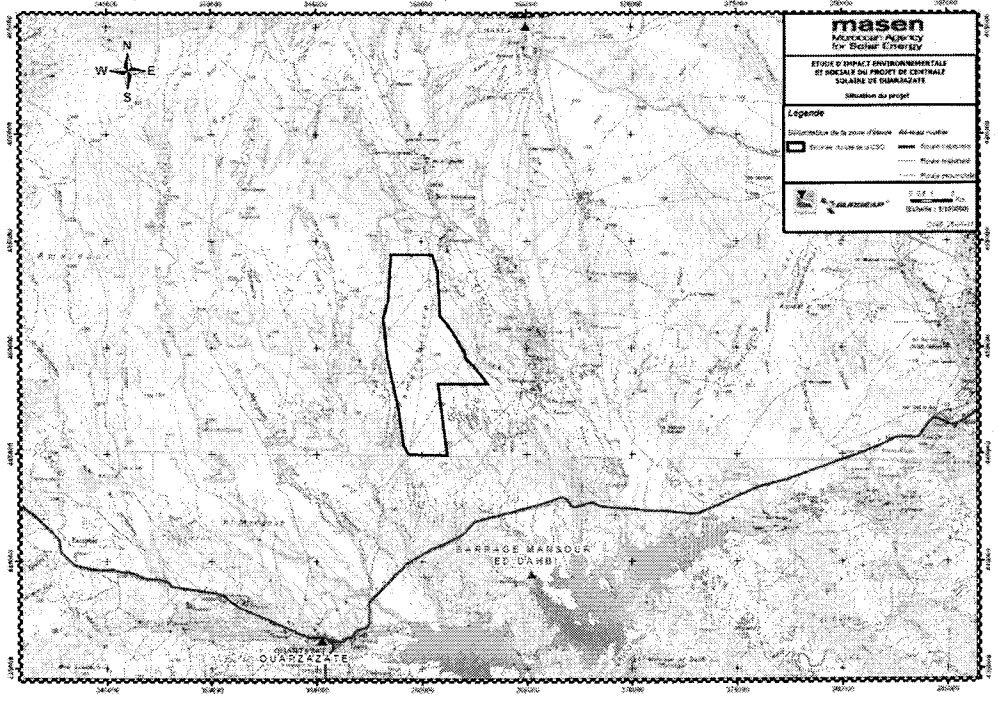
The site for the 500 MW Ouarzazate Solar Power Complex is located on a 2,500 hectares area, 10 kilometers (km) east-northeast of Ouarzazate and approximately 7.5 km north of the Mansour Eddhabi Reservoir, between the Lambert coordinates listed in the following table.

Lambert Coordinates of the Ouarzazate Solar Power Complex

Boundary	X	Y	Z
North Side	358300 to 360600	55460	1319 to 1312 NGM
South Side	359250 to 363300	45960	1217 to 1209 NGM

Figure 1 – MASEN CSP Tower plant proposed location: Ouarzazate
The geographical location of the site, approximately 4 km north of national road N10, is shown in the following figure:

31° 00' 50", -06° 51' 49" Elevation:1,232 m



The land has been contractually secured by MASEN under a 25 year lease agreement with the Ministry of Interior. MASEN selected the site based on the Moroccan Solar Atlas and from previously recommended areas by ONE and the Ministry of Interior to initiate CSP plants.

In parallel to the development of the 500 MW Ouarzazate solar power complex, MASEN is implementing a Plan of Development (PoD) for the development of common infrastructure to be shared by the selected consortia for all four phases. This includes paved access roads, water supply and drainage, substation and electrical interconnection, and telecommunications. As part of the PoD, Masen will be in charge of the preparation and construction of all site preparation work and site infrastructure, which will be provided at no charge to the selected IPPs.

Additionally, the following feasibilities studies were conducted at the Ouarzazate site as part of the Phase I tender:

- Solar Resource Assessment
- Geotechnical Analysis
- Water Analysis
- Initial Site Plan
- Environmental Impact Analysis

MASEN has assured GreenMax that access to the proposed site will be adequate to transport the turbines and other heavy equipment and it is well connected to principal roads. A logistics plan is being developed by MASEN as part of the PoD. Agadir is the closest port to the site and it is 800 km from Ouarzazate to Agadir. GreenMax did not have the opportunity to visit the site.

1.2 [redacted]

The MASEN 125MW CSP Tower technical assistance has the following objectives:

Items 1-6 would be the subject of the USTDA funded Technical Assistance.

1. Develop the Phase II tender documents for a 125MW CSP Tower solution specific to the Ouarzazate site;
2. Develop comparison tools, a technology selection methodology and provide support to assess prequalification documents and bids submitted to the tender;
3. Assess CSP Tower parameters: water, cooling and storage and determine the best parameters for the Ouarzazate site;
4. Develop an economic and financial model to determine the cost of producing power using CSP Tower technologies in Morocco;
5. Determine the required off-take price to ensure economic viability of a 125MW CSP Tower power plant at the Ouarzazate site.
6. Development of the Minimal Functional and Performance Specifications.
7. Select the most appropriate CSP Tower and storage technology for Ouarzazate.
8. Determine the local manufacturing potential for CSP Tower components in Morocco.
9. Develop the project financing structure and identify available project financing.
10. Capitalize on Moroccan Solar Plan's target of 2 GW by 2020.
11. Construct and operate the first stand alone CSP Tower plant in Morocco with storage.

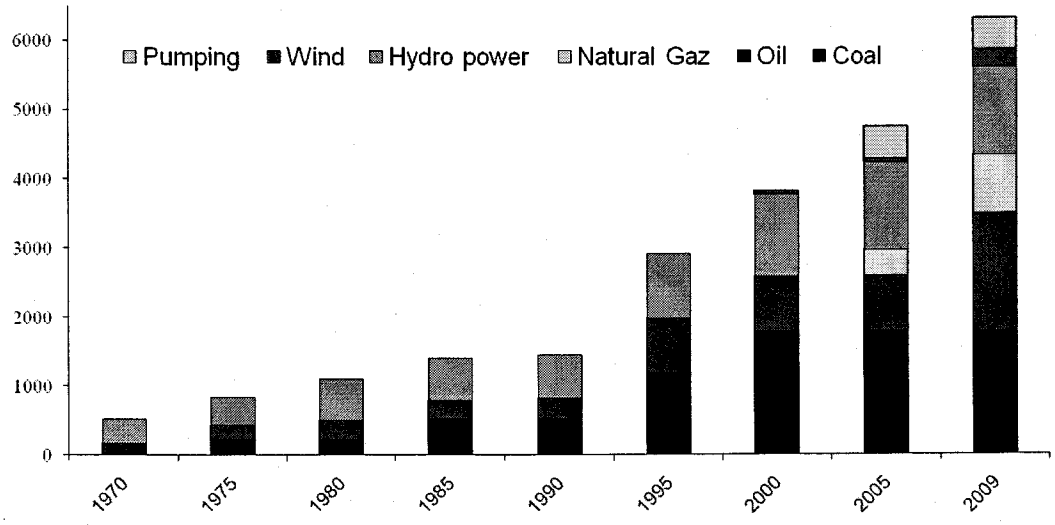
1.3 [redacted]

According to official 2009 statistics from the Moroccan Ministry of Energy, Water and Environment, the annual growth in electricity demand is around 1,200 MW annually or a growth rate of approximately 6% - 7% per annum

- Consumption of electricity in Morocco has been growing at a slightly higher annual rate than power generation, whereby consumption witnessed a CAGR of 6.5% from 2003 to 2008 while power generation witnessed a CAGR of 5.9%.

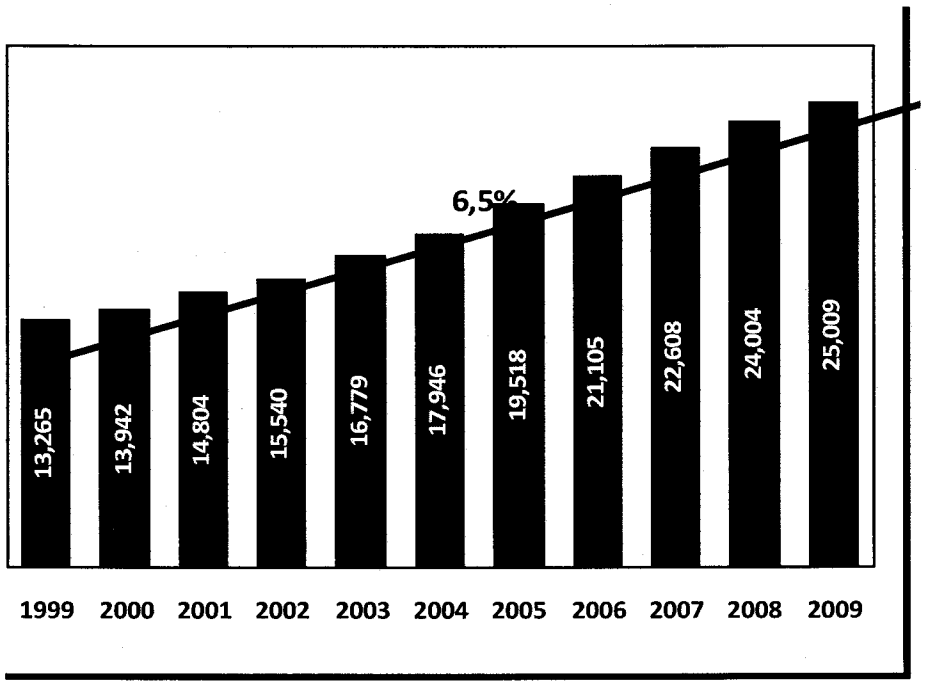
- Only a small cushion exists between peak load and installed capacity. The network therefore has a structural shortage since the international standard for a cushion is between 10- 25%. The shortfall in the cushion indicates the need for expanding the country's power capacity to avoid further deterioration in the supply/demand balance.

Figure 2: Evolution of Electricity Capacities, Generation and Consumption



Source: Moroccan Ministry of Energy, Water and Environment

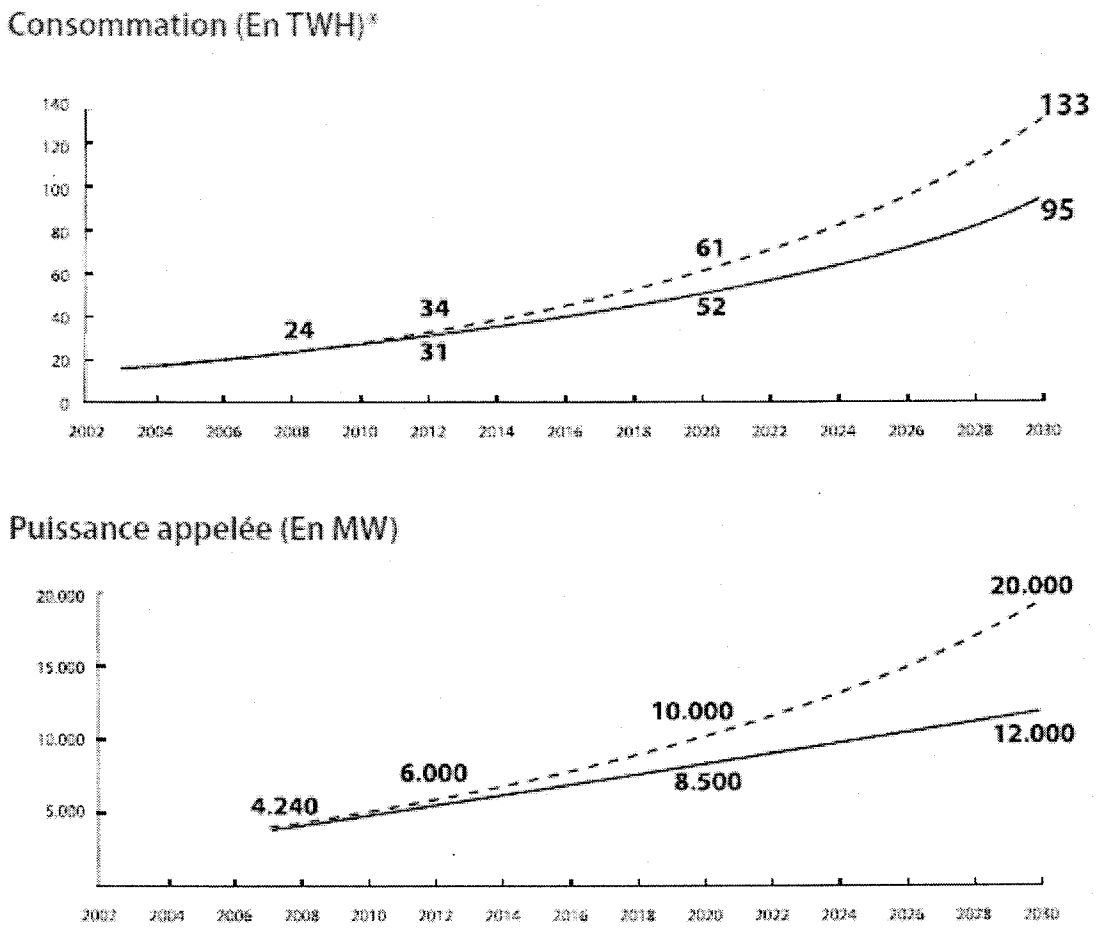
Figure 3: Expected Capacity Additions and Peak Demand



Source: Moroccan Ministry of Energy, Water and Environment

In 2012, the Demand and Supply curves for electricity consumption and generation are expected to diverge as shown in the Figure 4 below:

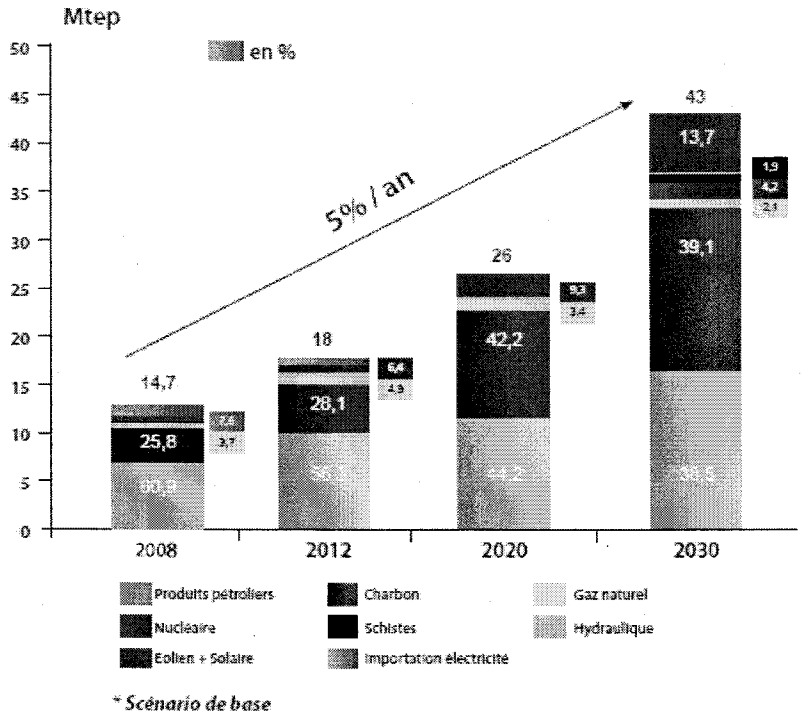
Figure 4: Supply and Demand Projections



Source: Moroccan Ministry of Energy, Water and Environment

The Moroccan government is forecasting that CSP power plants will begin producing power in 2015 and by 2020 the government expects that CSP will represent more than 14% of total installed capacity.

Figure 5: CSP Energy Production Projection for Morocco



** Scénario de base*

Consommation en énergie primaire	2008	2020	2030
Tep/Hab	0,46	0,67	0,91

Source: Moroccan Ministry of Energy, Water and Environment

1.4 [redacted]

Below is a list of recent developments in Morocco's Electricity Industry:

As a country with no hydrocarbons reserves, Morocco is almost entirely dependent on foreign energy sources. Morocco imports around 97% of its energy needs. Securing energy supply on a continuous basis is a vital element for sustaining Morocco's development plans. In view of Morocco's limited fossil fuel reserves, the depleted nature of fossil fuels globally, and growing concerns about pollution from conventional power plants and their negative impacts on the environment, Morocco has given due consideration to the promotion of its indigenous renewable energy resources mainly Wind, Solar and Biomass.

Energy policy is mainly the responsibility of the Ministry of Energy and Mines and departments and institutions connected to the Ministry, including the recently created (Agence Nationale pour le Développement des Energies Renouvelables et de l'Efficacité Energétique (ADEREE), the national public utility Office National de l'Electricité (ONE) and the Ministry's Electricity and Renewable Energy Department. Several reforms have changed the framework of the energy sector from a public ownership with monopolistic structures towards the gradual liberalization and opening to national and foreign private investments. As a consequence several Independent Power Producers

(IPPs) have gained substantial market shares in the Moroccan electricity sector. Although Morocco does not have a dedicated regulatory authority, the country provides a positive environment for private sector investments.

Regarding renewable energy developments, Morocco's plan is that by the year 2020, renewable energy should comprise 42% of generated electricity (based on forecasted new MW installed). According to the plan, the Ministry of Energy, Mines, Water and Environment (MEMEE) is expecting to meet this target primarily from wind farms, solar power and hydro.

In November 2009, the government announced a $9bn investment in a solar energy plan, which involves the development of an integrated solar plan using mostly concentrated solar power technologies at five identified sites, and aims at creating a minimum capacity of 2000 MW by 2020.

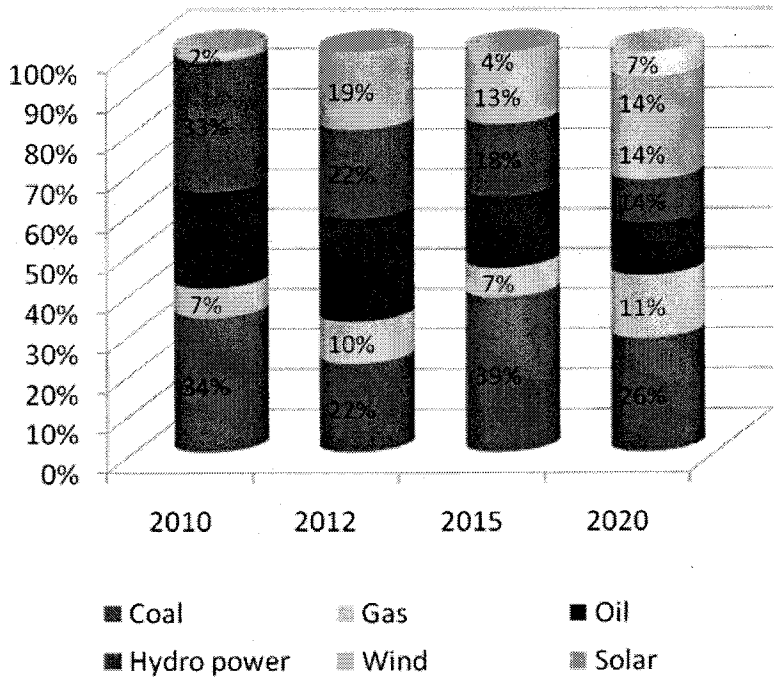
In March 2010 the government passed a law for the creation of a new agency in charge of promoting renewable energy and energy efficiency. The new National Agency for the Development of Renewable Energies and Energy Efficiency ADEREE has a mandate to enact initiatives and programmes, unlike the state institution it replaced, the Centre de Développement des Energies Renouvelables (CDER), which was a research-oriented public institution.

In 2009, Morocco began promoting private sector development of renewable energy grid-connected solar energy. This began with issuing a prequalification tender for the first 125-160 MW on a Build Own Operate Transfer (BOOT). Four companies were shortlisted in February 2010. It is expected that subsequent tenders for private sector solar parks will be in blocks of 125-150 MW.

1.5 [redacted]

To meet rising demand, tMEMEE, will increase the installed electrical capacity from 5,292 MW in 2008 to 14,580 MW by 2020. Renewable energy is expected to represent 42% of installed capacity by 2020. This includes wind energy (14%), hydroelectric (14%) and solar power (14%).

Figure 6: Moroccan Power Generation Mix by Energy Type



Source: Moroccan Ministry of Energy, Water and Environment

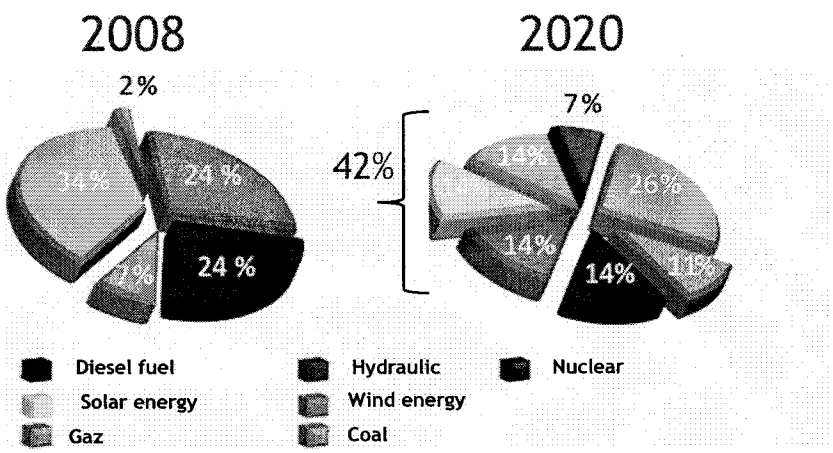
From 2000 to 2010, hydro power was used to its maximum availability in Morocco. Additionally during this period, wind power was developed by the government (currently 420MW and expected to be 850MW by 2010). From 2010 to 2020, installed wind power capacity shall be accelerated by involving the private sector, so that wind power can become 15-20% of installed capacity in the Moroccan grid.

In the following decades CSP plants shall be brought online, on a large scale, to replace thermal power stations that will be taken out of service. CSP is also expected to cover the growth in domestic demand, particularly the growing demand for desalination and to generate a surplus for export to Europe as part of the "Mediterranean Renewable Energy Partnership".

There are some concerns that a high percentage of wind energy may destabilize the grid and thus the government is considering limiting the share of wind power to 15-20% of the total energy mix. Balancing will be achieved by installing compensating capacity of conventional gas-fired power stations and CSP with thermal storage enabling night operation and supply on demand.

After 2050, the share of conventional power stations shall be reduced by replacing them successively with CSP power stations that will, by that time, produce electricity at considerably lower costs comparable to power generation from oil and gas.

Figure 7: Moroccan Scenario for Transition to Renewables



Source: Moroccan Ministry of Energy, Water and Environment

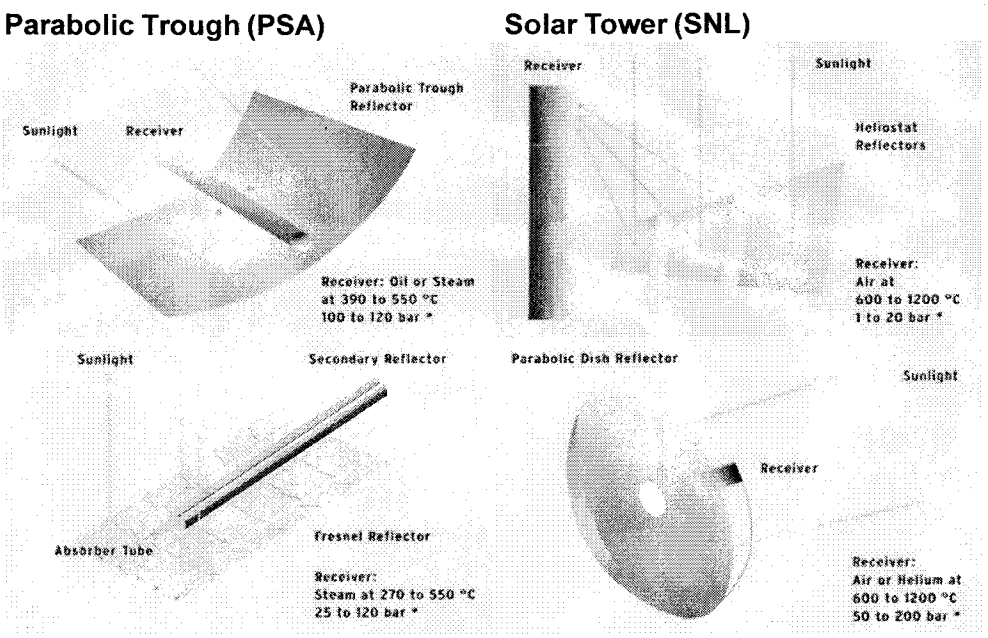
Based on Morocco's location in the African sun-belt and on the results of Morocco's Solar Atlas, there are sufficient resources to justify large scale deployment of CSP power plants. MASEN is targeting CSP locations with Direct Natural Irradiation (DNI) resources between 2,600 and 2,800 (note that Spanish CSP plants are in locations with approximately 2,000 DNI).

1.6 [redacted]

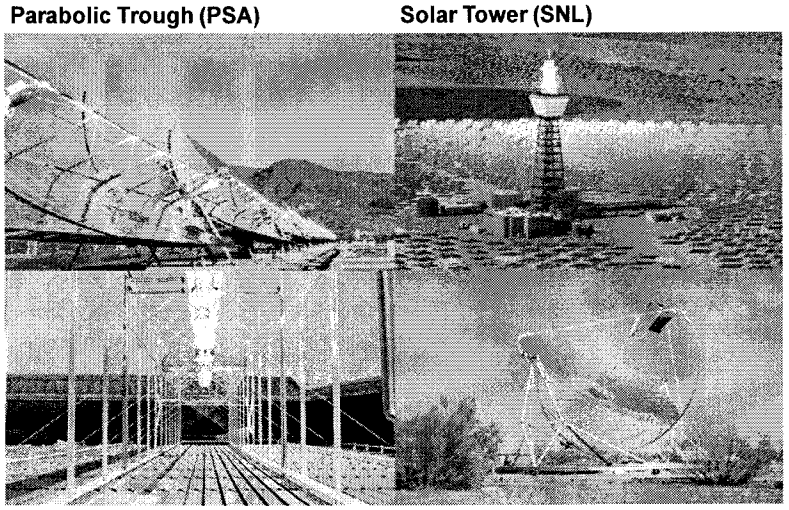
Unlike wind turbines and crystalline PV modules, in the CSP sector there is not a dominant technology and power plant design. CSP currently has four types of technology solutions (see Figure 8) with each solution having several technology providers. The cost structure of each technology varies considerably and the amount of megawatt hours produced also varies considerably.

In general, parabolic trough technologies require more specialized engineering with the current leadership for such solutions residing in the hands of Israeli and German companies. MASEN intends to procure and build all four technologies at the Ouarzazate site in order to determine the most appropriate technologies for the balance of the Moroccan Solar Plan (the remaining 1,500MW). As Phase I of Ouarzazate is now dedicated to Parabolic Trough technology, MASEN will dedicated the Phase II tender to CSP Tower technology. Since Trough technology is more established (e.g. more installed capacity), Trough was seen as a lower risk technology to launch the Solar Plan. Ultimately energy storage will be critical to grid stability and MASEN needs to gain experience with CSP technologies with storage. Since peak demand occurs after sunset in Morocco, storage is critical. Storage also always the power plant to have more operating hours as the power could produce electricity during and after daylight (capacity factor >40%).

Figure 8: Concentrating Solar Power Technologies (CSP)



PHOTOS:



CSP Tower systems have the highest Average Land Use Efficiency (LUE), which is calculated as follows: Solar Electric Efficiency x Land Use Factor = 20% for Multi – Tower Solar Array.

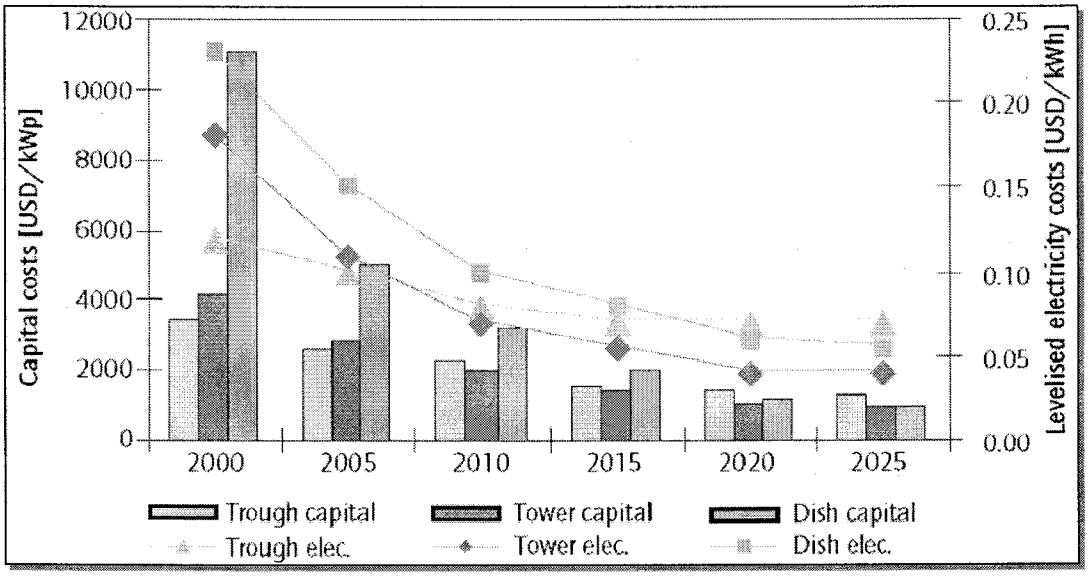
Below is a table illustrating Average Land Use Efficiency % for all CSP technologies.

Figure 9: Comparison of CSP Technologies

Collector & Power Cycle Technology	Solar-Electric Aperture Related Efficiency	Land Use Factor	Land Use Efficiency
Parabolic Trough Steam Cycle	11 - 16%	25 - 40%	3.5 - 5.6%
Central Receiver Steam Cycle	12 - 16%	20 – 25%	2.5 – 4.0%
Linear Fresnel Steam Cycle	8 - 12%	60 - 80%	4.8 - 9.6%
Central Receiver Combined Cycle*	20 - 25%	20 - 25%	4.0 – 6.3%
Multi-Tower Solar Array Steam or Combined Cycle*	15 - 25%	60 - 80%	9.0 – 20.0%

Source: NREL

Figure 10: Forecast CSP Investment and Electricity Cost



Source: NREL

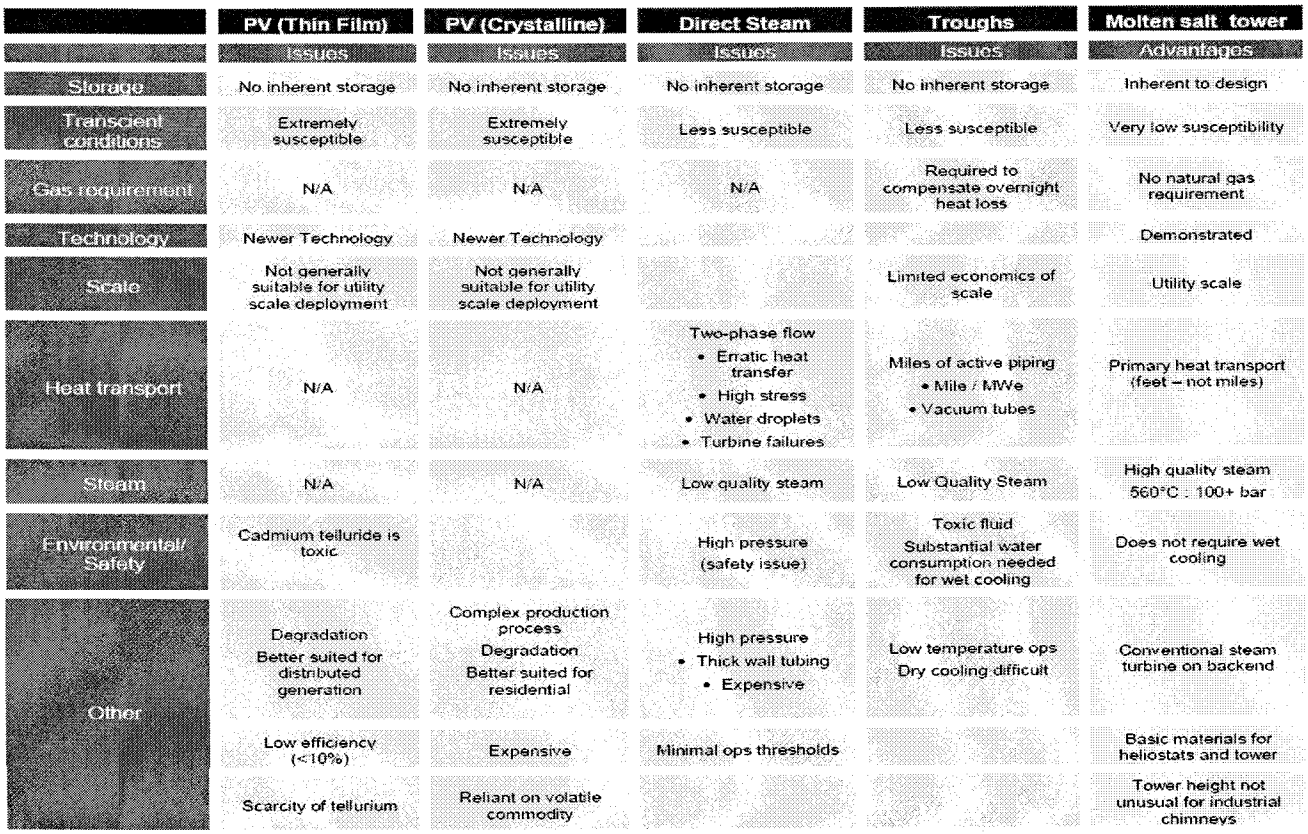
MASEN is interested in CSP Tower Systems with inherent storage due to their increased operating hours and ability to service peak demand. MASEN is interested in building and operating up to 1.0 GW of CSP power plants in order to drive down costs through economies of scale and local manufacturing of components.

MASEN has already invested in pre-feasibility studies, including solar irradiation, geotechnical, environmental impact, site topography and water resources.

MASEN would like to include CSP Tower Systems in the Ouarzazate complex since CSP with storage allows a CSP plant to operate at night and increase output in megawatt hours (MWh).

While the installed cost per MW of the technology is higher than other CSP technologies, the life cycle operating cost per MWh is lower than other CSP technologies.

Figure 11: Comparison of PV and CSP Technologies



	PV (Thin Film)	PV (Crystalline)	Direct Steam	Troughs	Molten salt tower
	Issues	Issues	Issues	Issues	Advantages
Storage	No inherent storage	No inherent storage	No inherent storage	No inherent storage	Inherent to design
Transcient conditions	Extremely susceptible	Extremely susceptible	Less susceptible	Less susceptible	Very low susceptibility
Gas requirement	N/A	N/A	N/A	Required to compensate overnight heat loss	No natural gas requirement
Technology	Newer Technology	Newer Technology			Demonstrated
Scale	Not generally suitable for utility scale deployment	Not generally suitable for utility scale deployment		Limited economics of scale	Utility scale
Heat transport	N/A	N/A	Two-phase flow • Erratic heat transfer • High stress • Water droplets • Turbine failures	Miles of active piping • Mile / MWe • Vacuum tubes	Primary heat transport (feet – not miles)
Steam	N/A	N/A	Low quality steam	Low Quality Steam	High quality steam 560°C . 100+ bar
Environmental/ Safety	Cadmium telluride is toxic		High pressure (safety issue)	Toxic fluid Substantial water consumption needed for wet cooling	Does not require wet cooling
Other	Degradation Better suited for distributed generation	Complex production process Degradation Better suited for residential	High pressure • Thick wall tubing • Expensive	Low temperature ops Dry cooling difficult	Conventional steam turbine on backend
	Low efficiency (<10%)	Expensive	Minimal ops thresholds		Basic materials for heliostats and tower
	Scarcity of tellurium	Reliant on volatile commodity			Tower height not unusual for industrial chimneys

Source: Lahmeyer International

The Molten Salt Power Tower System is shown in the diagrams and table below:

Figure 12: Molten Salt Power Towers System: Process

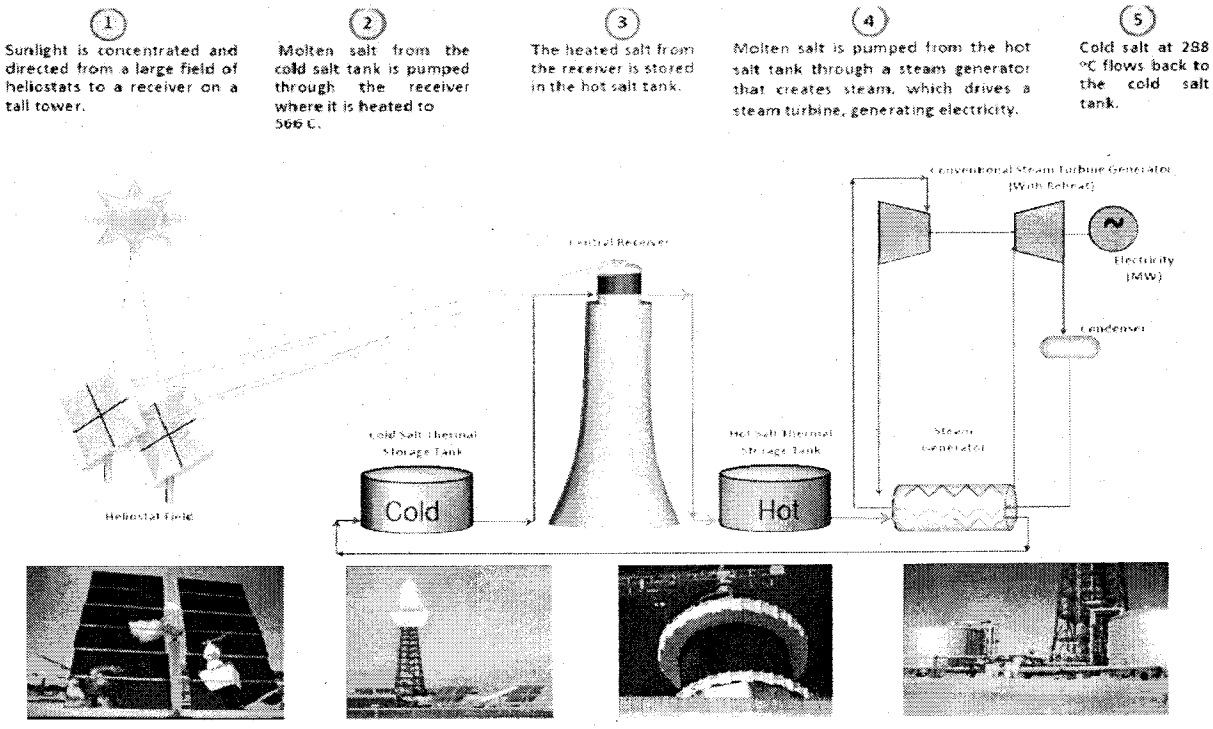


Figure 13: Molten Salt Power Towers System: Technical drawing

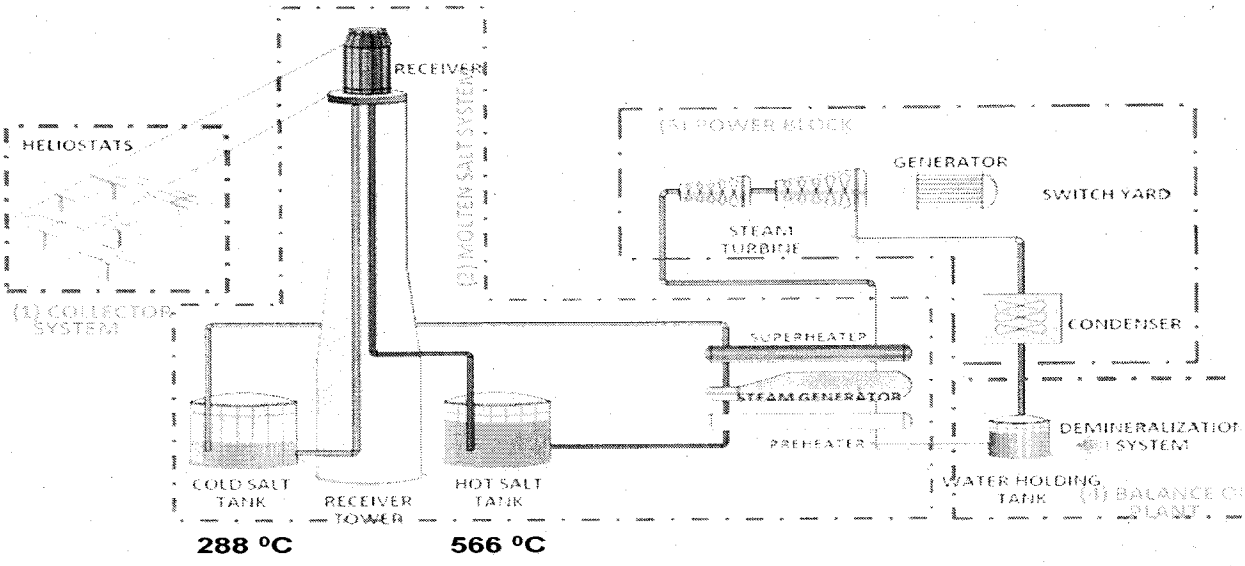
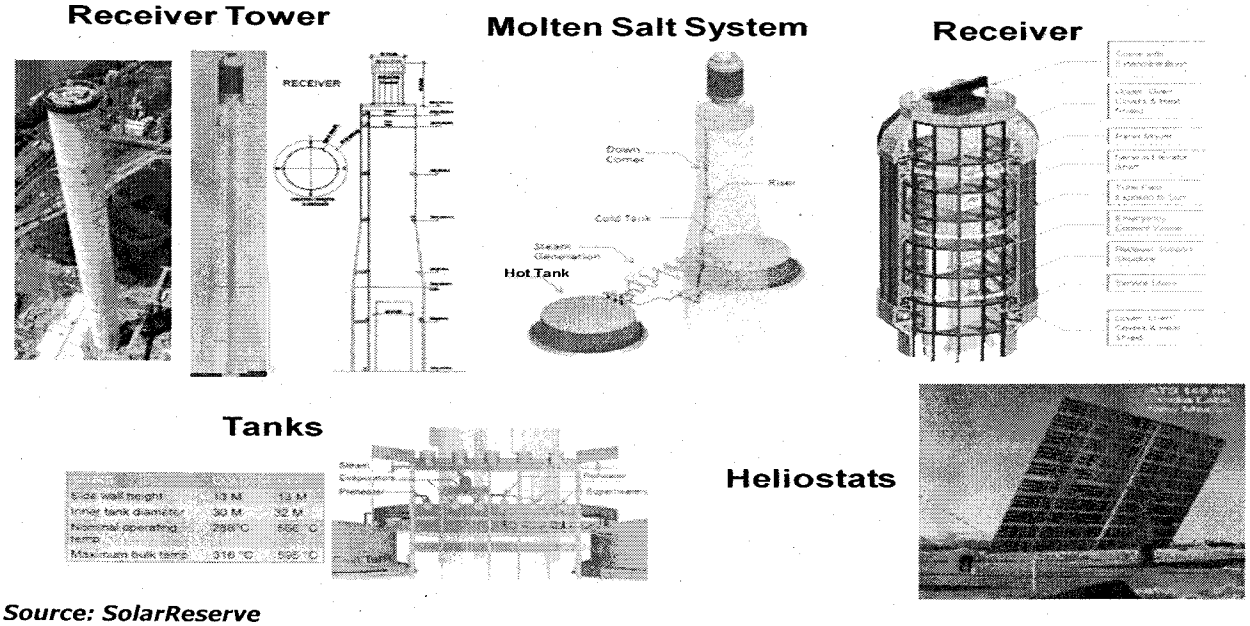


Table 1: Molten Salt Power Towers System: Key Design Parameters

System/Component	Parameter	Value	Units
Site	TBD		
	Area	650	Hectares
	Solar Irradiation	6.5 – 7.5	kWh/m^2 per day
Collector System	Number of heliostats	17,346	
	Heliostats size	62	m^2
	Glass area	1.1 million	m^2
Receiver System	Power	506 - 550	MW
	Operating temperatures	288-566	°C
	Molten Salt Flow rate	1,273	kg/s
	Receiver active region	16 dia.x18.5h	m x m
	Tower height to deck	164	m
Thermal Storage System	Hot and cold tank sizes	~32 dia. x 13 h	m x m
	Thermal capacity	2200	MWh
	Storage at full power	10	hrs
	Salt quantity	13,600	tonne
Steam Generator	Power		
	Salt flow rate	320	kg/s
	Steam Temp/Pressure	554/115	°C/Bar
Turbine-Generator	Gross Power	110	MW
Electricity production	Yearly energy	450 - 500	GWh/yr

Source: SolarReserve

Figure 14: Molten Salt Power Towers System: Components



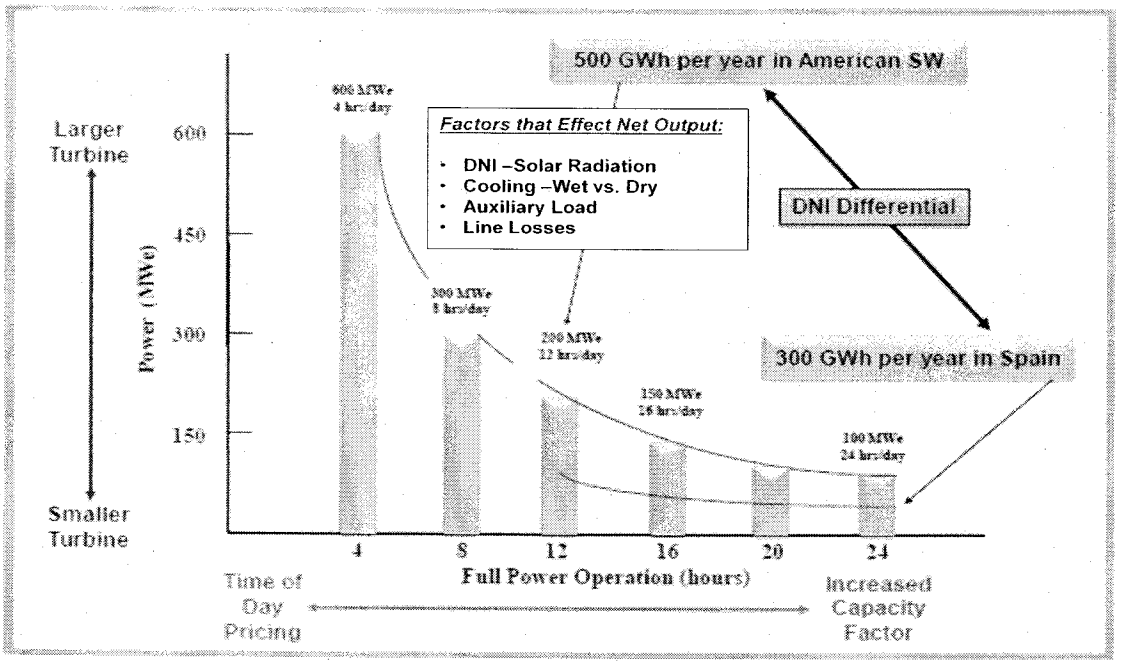
Source: SolarReserve

The main advantage of a CSP Tower System with storage technology is its ability to store energy (heat) so that the solar power plant can operate 16 hours/day for periods of time. CSP Tower power plants with storage are operating an average of 4,200 operating hours (53% capacity

factor). The power plant is therefore able to produce base-load or peak power and its lack of intermittence eliminates all issues related to grid stability and balancing.

The chart below details the efficiency of solar towers. Efficiency is driven by the possibility to alter many factors that allow the power plant to respond to required needs and demands. MASEN is interested in solar tower technology because of its flexibility and convenience.

Figure 15: System Sized According to Operational Needs



Source: NREL

2. Technical Issues

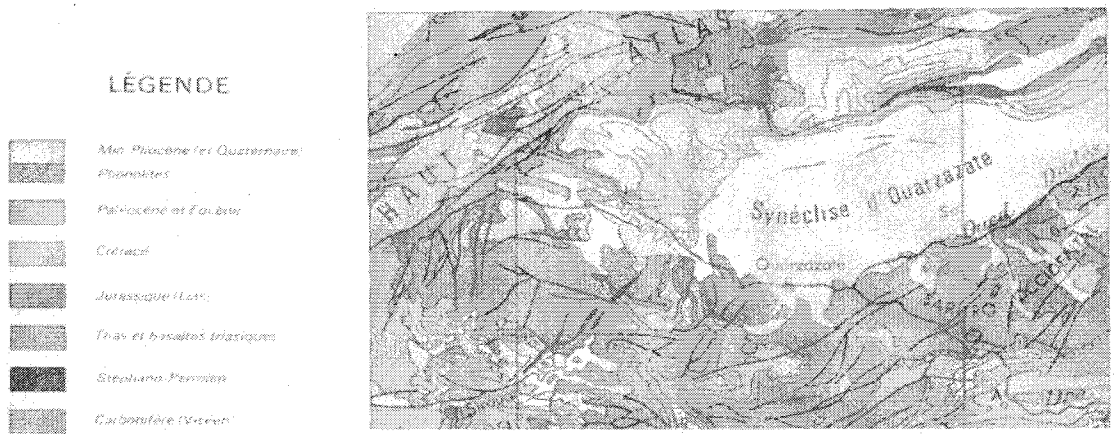
In a notable development for the CSP industry in the MENA region insurance companies have required that the design of CSP parks take into account the installation of 195 meter solar towers capable of withstanding Morocco's seasonal sandstorm with speeds of up to 140 km/h.

Regarding hydrological and flash floods risk, the Ouarzazate solar complex area is located at the level of High Draa. This is the level of Oued Dades lake, West of the Izerki river.

The area of the Ouarzazate solar complex is essentially drained on is Eastern side by the Izerki oued. The project site is drained by a network of chaabas and rivers. This set of rivers form a hydrologically dense river system with low flood risk, although Morocco is subject to occasional flash floods.

The MASEN CSP power plant will be located near seismic Zone-II (Figure 16).

Figure 16: Seismic zones in the Ouarzazate area



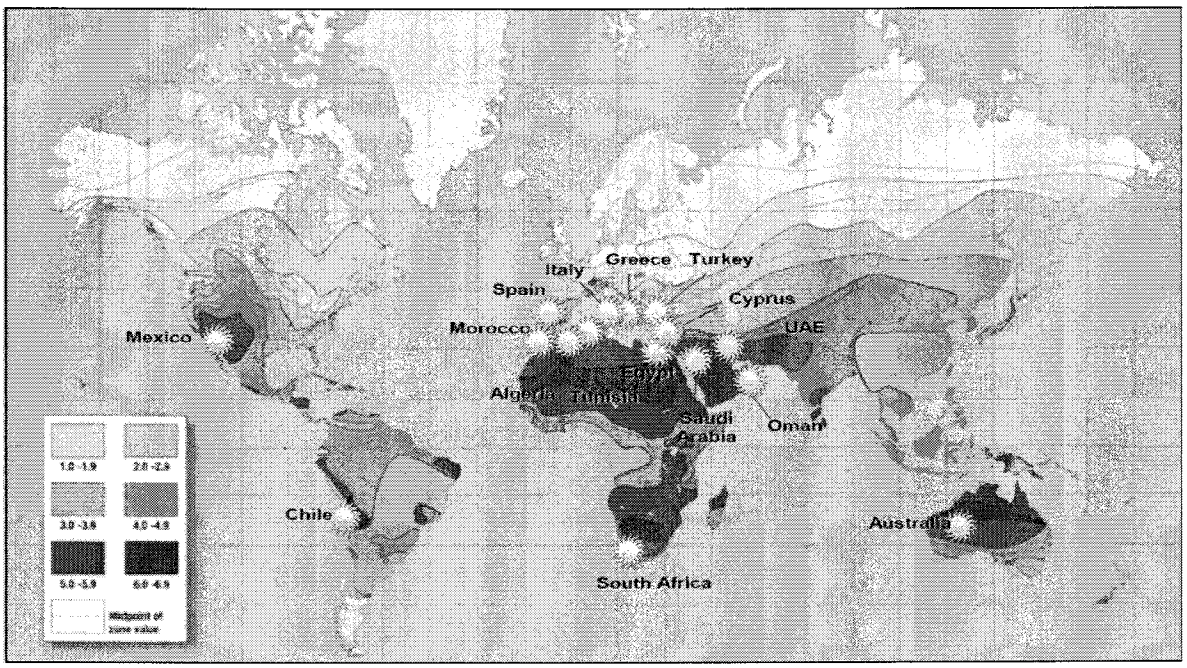
Source: The Moroccan codes for design and construction of buildings

During the Phase I procurement process MASEN obtained a non- binding proposal from a reputable international insurer. GreenMax was informed that the proposal includes written acknowledgement that the considered area has an extremely low probability of flooding and earthquakes and that the insurer will cover damage to parabolic trough power plant.

3. Solar Energy Potential

Based on preliminary data and satellite images, the map below depicts the potential locations for CSP power plants based on average irradiation of between 2,000-2,800 DNI (Figure 17)

Figure 17: World's Solar Energy Resource Assessment



Source: EIA

Morocco is ranked with Egypt and Jordan as one of the best locations for CSP power plants based on expected electricity yield and project costs, which utilizes local labor and materials. Other factors that influence the cost of a CSP plant include solar irradiance, plane area, distance to demand centres, and availability of skilled personnel.

Initial assessments of Morocco's solar resources, based on several studies and research audits, indicated that Morocco has excellent solar availability. The solar radiation is between 2,400-3,000 kWh/m2. The resource assessment led to the preparation of the Moroccan Solar Atlas in 1991, which includes typical meteorological year data and maps. As an integral of its missions, MASEN is also launching a project to develop an updated Moroccan Solar Atlas.

The Solar Atlas for Morocco shows that Direct Normal Irradiation (DNI) ranges between 2,400 kWh/m2/yr in the North and 3,000 kWh/m2/yr in the South. Moreover, sunshine duration ranges between 9-11 h/day from North to South, with approximately 300 days of full sun and less than 50 cloudy days.

MASEN is considering most of Southeast Morocco for CSP plant locations, since the area has a high resource potential (between 6.2 and 7.22 kWh/m2/day) and access to the grid.

Due to particularly good solar conditions within the MENA region, several institutions such as the Trans-Mediterranean Renewable Energy Corporation and DESERTEC Industrial Initiative, a consortium of blue-chip companies (including ABB, Deutsche Bank, E.ON, Munich Re, RWE, and SIEMENS) aim to build CSP plants and to develop the HVDC super grid over the coming decade, although infrastructure projects of this order and magnitude usually take much longer to complete.. Morocco is a participant in this initiative as it currently is the only country with an interconnection link with Europe.

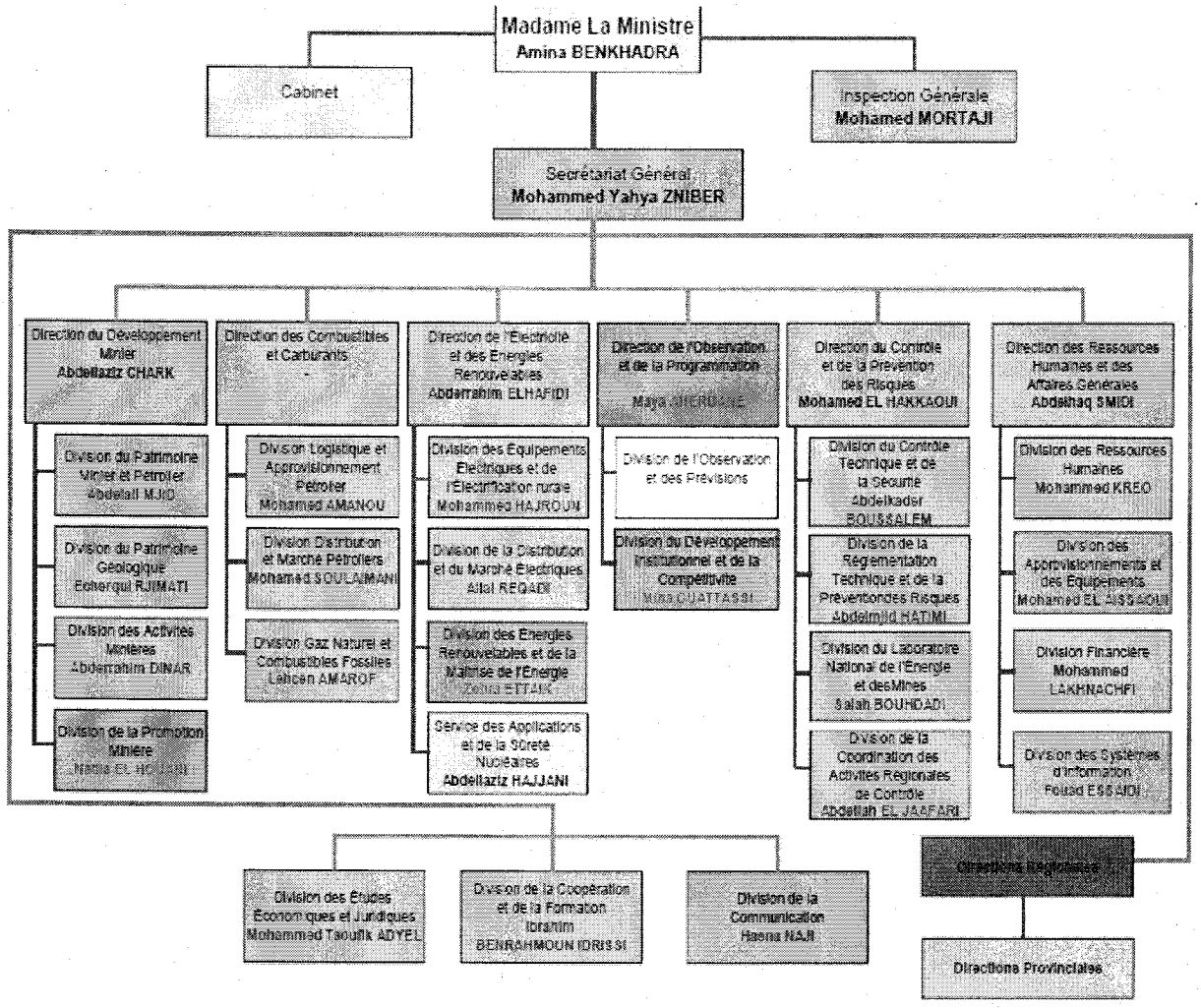
4. Regulatory Framework

A variety of institutions operate in the Moroccan energy sector. Some of these have direct influence on its governance while others indirectly influence activities and decisions. In this section, we will provide a brief overview of the majority of the institutions present in the energy sector.

The Energy Sector is a mainstay of socio-economic development processes in Morocco and it is regulated by the Ministry Energy, Mining, Water and Environment (MEMEE).

There are currently six directorates within the MEMEE as indicated in the following diagram (Figure 24). They include: Mining Development, Combustibles and Carburants, Electricity and Renewable Energy, Observations and Programs, Control and Risk Prevention, and Human Resources and General Affairs. MEMEE is responsible for setting the national energy strategy and monitoring its implementation.

Figure 18: Ministry of Energy, Mines, Water and Environment (MEMEE) Organization



The MEMEE is responsible for the elaboration and the national energy strategy in the domains of the energy, mines and the geology as well as the control of the other sectors dependent on its authority.

MEMEE's mission includes:

- Safeguarding the good management and the development of the energy and mining heritage and to guide geologic research and the prospecting of resources on the ground and underground,
- Define the options and take the necessary measures to guarantee security of energy supplies, ensure access to commercial energy services by rural and urban populations, and insure the safety of personnel and energy and mining installations,

- Provide a permanent strategic and forward-looking vision of the energy sector;

- Organize and guarantee the smooth running of the electric, gas and oil markets, within the framework of the consolidation of an energy market liberalized and integrated into its regional environment, in particular by the intensification of exchanges through the interconnections,

- Manage and intensify exchanges and dialogue with all the administrations, the bodies and the partners concerned by the development of the sectors of the energy and mines,

- Establish databases and collect the information necessary for the elaboration of analyses with economic and strategic character and studies of impact, through the implementation of a system of energy and mining observation and planning.

l'Office National de l'Electricité. the National Office for Electricity (ONE) was established and organized by virtue of Law 10/63. It is primarily responsible for system studies and planning, power plants projects, HV/ UHV transmission, network projects and operation and maintenance.

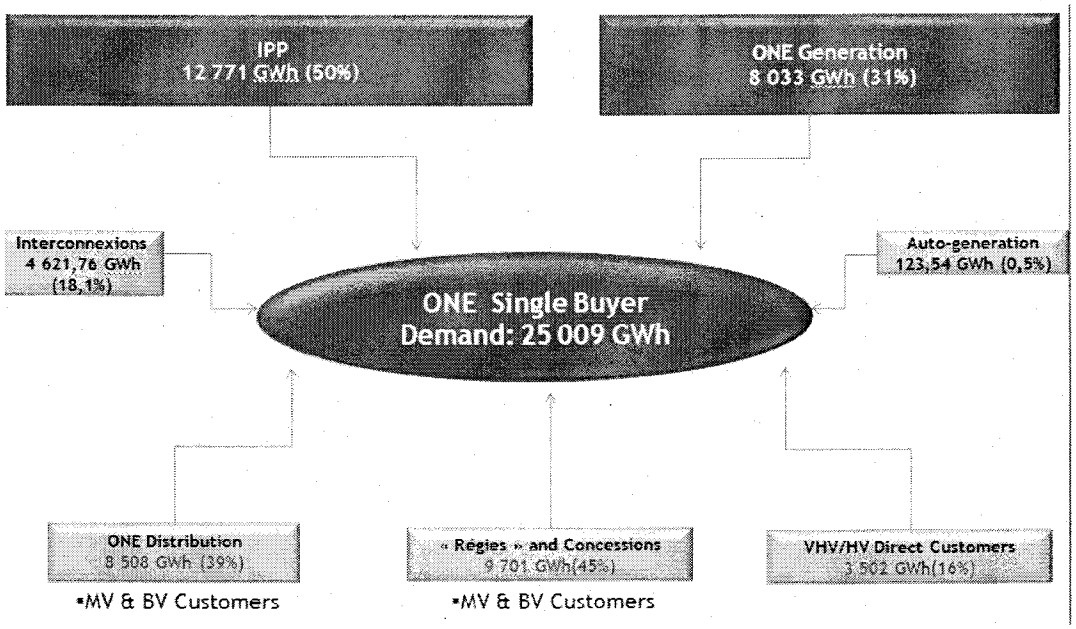
ONE is responsible for planning, generating, transmitting and distribution of electricity. This role is being implemented day to day under oversight of ONE but through the hereafter listed authorities or organizations that directly generate their policies based on the general policy of MEMEE, .

ONE is the state electricity producer and supplier, and for a long time was the sole provider, though the electricity segment has been liberalized over the years. In 1994, electricity production was opened to private sector competition. However, private firms had to sell their electricity exclusively to ONE according to decree 2-94-503 of 1994. In 2008, a new decree increased the independent production threshold for electricity generation from 10 to 50 MW. Total installed generation in 2010 was more than 6,000 MW, and it is expected to reach more than 8,000 MW by 2015 in response to increasing demand.

Electricity distribution is assured by ONE and 10 other state-owned utilities, which are overseen the Ministry of Interior.

ONE is the only company permitted to be licensed for electricity transmission in Morocco. It owns and operates the Moroccan transmission network, which includes EHV and HV networks. Currently it is the single buyer to all generation suppliers. As of 2008, ONE's transport network encompassed 61,634 km of medium-tension lines and 127,829 km of low tension lines. To strengthen interconnection and improve service, ONE doubled its electricity transit capacity from Morocco to Spain from 700 MW to 1,400 MW in 2006. A third line is under study to increase the transit capacity to 2,100 MW. ONE is also planning to increase its transit capacity with Algeria from 400 MW to 1,000 MW.

Figure 19: Moroccan Electricity Market Organization



Under the current legal and regulatory framework, there is no regulatory authority for the electricity sector in Morocco. Electricity sector regulation currently is the responsibility of the MEMEE.

In January 2010, three new Laws about renewable energy and energy efficiency were adopted in Morocco:

- Law 13-09 to promote renewable energy. This new law would modify the existing Decree of 1968 establishing ONE, by authorizing the production of electricity from renewable sources by persons and entities other than ONE;

- Law 16-09 created the new agency ADEREE ("Agence Nationale pour le Développment des Energies Renouvelables et de l'Efficacité Energétique") for renewable energy and energy efficiency. This law replaces law 26-80 that created in 1982 CDER (Renewable Energy Development Center);

- Law 57-09 about new agency MASEN (Moroccan Agency for Solar Energy): Installation of 5 Solar Power Complexes by 2020 with a total capacity of a minimum of 2000 MW.

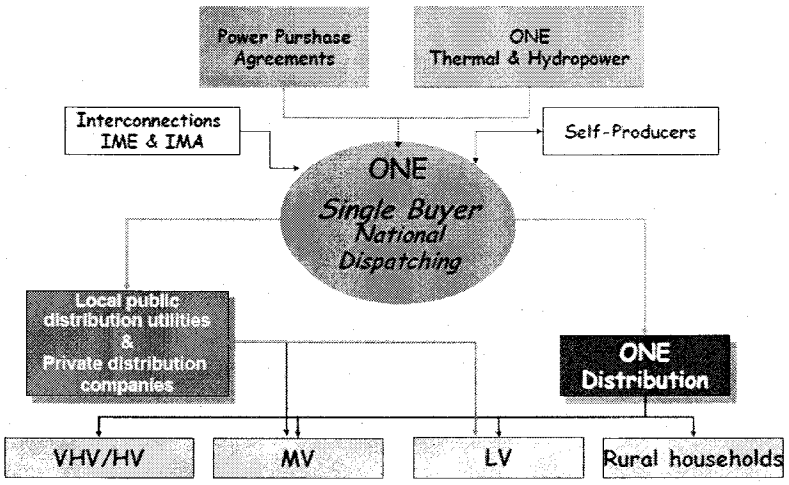
The adoption of law 13-09 was the general act which set in motion various further regulatory initiatives and government actions aimed at promoting energies from renewable energy. First was the adoption in February 2010 of two acts with regards to the "National Agency for the Development of Renewable Energies and Energy Efficiency" (ADEREE) and to the "Moroccan Agency for Solar Energy" (MASEN). Next came, the launch in June 2010 of the "Moroccan integrated wind energy program" that entails the building of new wind farms, bringing the installed national electrical wind power from the current 280 MW to 2,000 MW in 2020. 720 MW of wind power are under development, and for the remaining 1,000 MW ONE has recently launched a call for expressions of interest for the construction of a wind farm with a capacity of 150 MW in the region of Taza.

Law 13-09 with regards to renewable energies implements a scheme that breaks up the monopoly of production of electric energy granted to the National Office of Electricity, by placing the ONE and public or private companies on the same stage, as far as electricity production from renewable energy sources is concerned (i.e. the electricity production from hydraulic sources is excluded).

In addition, law 13-09 sets out the principle that every Moroccan power facility operating on renewable sources of energy shall be connected to the "national electric network of a medium, high and very high power". Although law 13-09 intends to promote the end of the monopoly of production of electrical energy, there is still an obligation to supply the energy from renewable sources throughout the national electrical network that is being managed by ONE.

The Law 16-09 comes as a replacement of the law 26-80 that created in 1982 CDER (Renewable Energy Development Center) and set the legal framework of the new agency ADEREE for renewable energy and energy efficiency. ADEREE has a mission to contribute to the development of the national policy in term of renewable energies and energy efficiency.

Figure 20: Current Electricity Market Structure in Morocco



B. About the Grantee

MASEN was founded in March 2010 under the law 57/09. MASEN is structured as a joint stock company, publicly funded, where the Moroccan government, ONE, Hassan II funds and SIE constitute its shareholders with equal parts. MASEN's current structure is defined by the Moroccan law 57/09, and therefore they were provided an initial share capital of USD $60 million from the Goverment. MASEN is responsible for the development of the Moroccan Solar Program which targets 2,000 MW of solar by 2020. MASEN employs currently about 25 people.

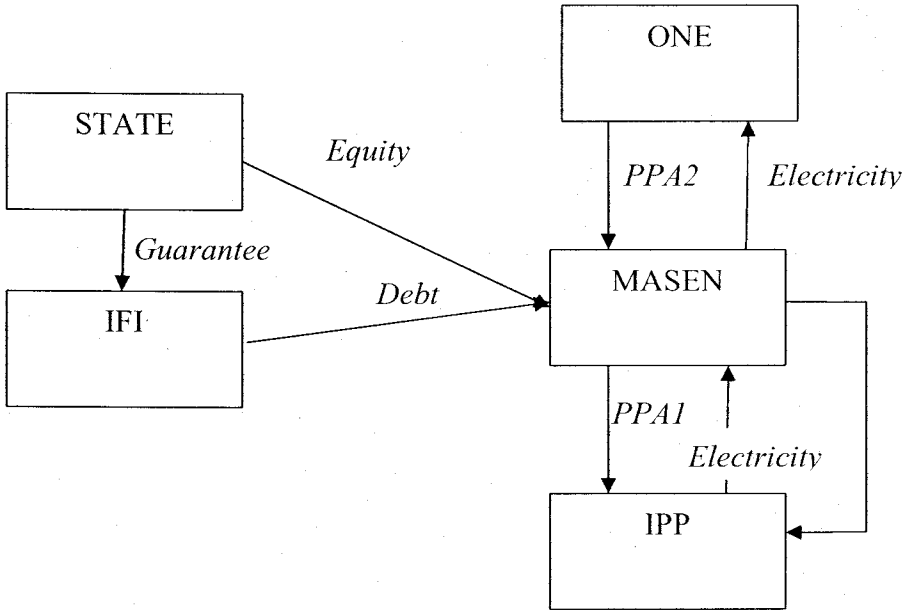
The Chamber of Counselors (legislative body) adopted the Law 57-09 creating the Moroccan Solar Agency (MASEN). MASEN is in charge of:

- The design of integrated solar development projects, in areas of Morocco which are suitable for solar power plants;
- Conducting the technical, economic and financial studies which are necessary to qualify the sites, including design and the exploitation of the solar projects;
- Contribution to research and to the raising of the funding necessary for the realization and to the exploitation of the solar projects;
- Proposing to the Moroccan administration modes of industrial integration for each solar project;
- Project management for the realization of the solar projects;
- Realization of the infrastructure required to connect solar power plants to the electricity distribution grid, as well as the infrastructure for the supply of water , subject to the powers granted in connection therewith by the legislation in force to any other public or private law entity;
- Rromotion of the program with national and foreign investors;
- Contribution to the development of applied research and to the promotion of the technological innovations in the solar subsectors of electricity production.

MASEN, as the implementer of the Moroccan Solar Plan, is responsible for the international bidding process for the selection of the IPP that will finance, design, construct, operate, and maintain the solar power plants awarded by tender. MASEN will be the sole off-taker of the electricity produced. MASEN will then sign a PPA with ONE. This double PPA format allows MASEN to provide a subsidy to the IPP through the provision of marginally higher tariffs than would be received by a direct PPA with ONE. While the IPP will finance, own and operate the solar power plants, MASEN intends to

take an equity position in the Special Purpose Vehicle(SPV) formed by the IPP. They also intend on providing the financing to the IPP through the re-lending of IFI funding provided to MASEN.

Figure 21: MASEN Proposed Project Structure



MASEN fact sheet:

- Founded in March 2010
- Shareholders:
  - Moroccan Government 25%
  - ONE 25%
  - Hassan II Fund 25%
  - Société d'investissement énergétique (SIE) 25%

C. Development Impact

The proposed project, when fully implemented, would have a significant development impact on the energy sector in the Morocco by facilitating the implementation of the second major CSP energy project in the country. Additionally, it would have a significant contribution to local industry and job creation as the Ouarzazate solar complex is targeting 500MW and the total installed capacity of Phase I and Phase II are 250MW. An immense amount of local engineering and infrastructure work are required to prepare the site for all the IPPs selected to develop solar power plants at Ouarzazate.

The development of indigenous renewable energy options for Morocco is critical for ending its dependence on fossil fuel based power generation. This dependence is a burden on the country's economic development because of the government subsidies given to the sector, in order to provide affordable power to citizens and industry. Renewable energy will reduce these

uncertainties by eliminating fuel adjustment costs and once subsidies are removed, renewables will be competitive with fossil fuels (wind power is already competitive with coal). The reduction in dependency on imported coal and heavy oil will also improve macro-economic conditions. The 125MW project will lead to the annual saving of 0.60 million ton of oil equivalents and a value of $3.7 million in carbon credits from saving 0.23 MM tons of CO2 emissions on every GW produced.

1) **Infrastructure:**The project will add substantially to the energy sector's infrastructure in Morocco by facilitating the construction of the first commercial CSP Tower power plant.

2) **Human Capacity Building:** The project will help to develop skills necessary to manage further renewable energy development for the country. In addition, the employment generated from this project is a crucial factor to weigh alongside the other costs and benefits. Unemployment rates are a drain on the Moroccan economy. Thus, any project that requires a significant level of skilled and unskilled labor is of economic importance.

   A number of assessments regarding the employment effect of solar power have been carried out in Germany, Spain, and the USA. The assumption is that for every megawatt of new capacity, CSP would create 10 jobs through manufacturing, component supply, solar farm development, installation, and indirect employment. However, when production processes are optimized, the level of employment will decrease. Yet, employment in regular operations and maintenance work at solar farms will contribute an additional one job for every megawatt of cumulative capacity.

Figure 22: Social Benefits of the MSP-STE: Job Creation

Solar Mediterranean Plan – Solar Thermal Electricity - Employment Projections (*)							
Year	Installed Capacity (MW)	Manufacturing Jobs in Europe man/year	Manufacturing Jobs in NA man/year	Construction Jobs man/year	O&M man/year		Total man /year
					New	Accumulated	
2011	200	400	400	1,200	120	120	2,120
2012	300	600	600	1,800	180	300	3,300
2013	500	1,000	1,000	3,000	300	600	5,600
2014	700	1,400	1,400	4,200	420	1,020	8,020
2015	1,000	2,000	2,000	6,000	600	1,620	11,620
2016	1,400	2,800	2,800	8,400	840	2,460	16,460
2017	2,000	4,000	4,000	12,000	1,200	3,660	23,660
2018	2,900	5,800	5,800	17,400	1,740	5,400	34,400
2019	4,500	9,000	9,000	27,000	2,700	8,100	53,100
2020	6,500	13,000	13,000	39,000	3,900	12,000	77,000
Total	**20,000**	**40,000**	**40,000**	**120,000**	-	**35,280**	**235,280**

(*) In this table only the period from 2011 to 2020 is taken into account, however the jobs will last during the entire 50 year life of the operating life of the power plant. As mentioned before, job creation after 2020 would be even more impressive, as additional CSP plants would be built under full market conditions.

3) **Technology Transfer and Productivity Enhancement:** CSP Tower generation technology needs to be imported. The project will pave the way for installation of state of the art CSP power generation technology in Morocco. Additionally it will require importing and implementing new grid management systems in order to increase CSP power plant reliability and to manage the national transmission system.

For the proposed Ouarzazate project local manufacturing and assembly is assumed to be between 30-40%. However, over a ten year period, there will be an effort to increase volumes of key components to further drive down costs in order to make CSP power more affordable.

It is the opinion of GreenMax that the Solar Receiver, Turbine, Generator and Transmission equipment would be exported from the United States. Since CSP Tower technology utilizes relatively easy to produce flat mirrors, local manufacturing could be utilized.

In summary, the MASEN CSP plant will achieve sustainable development through a:

- CSP Facility that can produce more than 450 GWh annually, displacing the equivalent of 200,000 tons of fossil fuel generation carbon emissions.
- A power plant that requires no fossil fuels.
- A significant portion of the materials, labor, and equipment being locally sourced (over USD $200 million in value).
- Project financed by IFI's, the Moroccan government and sovereign funds.
- CDM Qualified Facility generating carbon credits.
- Facility that can operate as a peaking plant or as base load, supplying power to the local grid or ultimately for export to Europe.
- Create thousands of new jobs in manufacturing, construction and operations.
- Ripple effect of over 10,000 jobs per power plant (Abengoa estimate).

E. Implementation Financing

Based on discussions with U.S. companies,, GreenMax is assuming a total capital cost of approximately USD $625 million for a 125MW power plant. Ultimately the price depends on the technology selected and particularly the storage solution. The number of hours of storage has a major impact on costs. A detailed study of storage solutions is a Task in the Technical Assistance.

Based on conversations with financial institutions in Rabat and Casablanca, the project could be financed with a combination of equity (30%) and debt (70%). This leverage ratio reflects the current reality in the debt markets, the terms and conditions being offered by lenders to other renewable energy projects under consideration in the region as well as conversations with multilateral financing institutions, such as the World Bank and the African Development Bank.

However, MASEN is considering a unique financing solution whereby they obtain concessional financing from the World Bank and other IFIs and then MASEN would re-loan the funds as either equity, debt or mezzanine finance to the IPP. This would provide the IPP access to concessional financing not available to the private sector. MASEN has also expressed interest in investing equity (up to 10%) in the IPP in order to learn more about power plant operations and cost structure, but also to ensure the project is both bankable and produces power at prices acceptable to ONE, the Ministry of Finance and the Ministry of Mines and Energy. It is expected that even with concessional and carbon financing that the power plant would still produce electricity at prices higher than current market prices. The 'gap' between market pricing and production costs is expected to be financed by the Ministry of Finance.

Since the total project CAPEX for the MASEN project will not be known until further analysis is conducted under the Technical Assistance, MASEN is assuming a total capital cost of $625M/125MW. The World Bank's Clean Technology Fund concept note for CSP scale up in North Africa estimates capital costs between $4,000 and $6,000 per kW for a typical capacity factor of 22-24 percent without storage. An earlier World Bank Energy Sector Management Assistance Program (ESMAP) assessment (with cost at 2004 price levels) estimates a 54 percent capacity factor for CSP with storage at $4,780/kW, or $2,450/kW for a 20 percent capacity factor without storage. MASEN has also conducted an early stage study during the first phase of the implementation of the Ouarzazate solar complex, which analyzed the different technology costs. The project would be financed with a combination of equity and debt, whereas the exact percentages are expected to be determined as part of the technical assistance.

The World Bank's Clean Technology Fund (CTF) is implementing a CSP co-financing program to develop an expansion pathway in developing countries. In the absence of significant concessional financing such as from the CTF, large scale deployment outside of the U.S and Spain is unlikely to occur for another 5-10 years. With CTF support, the cost reduction curve would be accelerated and would increase the adoption rate significantly.

Initial estimates from the World Bank, suggest that total financing in the range of $6-8 billion will be needed to achieve a GW order scale-up. It is proposed that CTF co-financing constitute about

10% of the total resources required. Most Development Banks, such as World Bank, the European Investment Bank, the African Development Bank, Afd, KfW and JICA expressed interest in financing large scale solar energy projects in Morocco.

MASEN is familiar with the funding procedures of the Development Banks mentioned above, a most of them are participating in the funding of the first phase of the Ouarzazate solar complex. As previously mentioned, there are monthly meetings of the current IFI financing consortia for the USD $1 billion CSP Parabolic Trough power plant currently being designed as part of Phase I. The consortia is lead by the World Bank and includes the African Development Bank (AfDB), the European Investment Bank (EIB), the French AFD and the German KfW.

GreenMax met with the World Bank, the African Development Bank and the Islamic Development Bank to clarify their intent and interest to continue financing renewable energy projects in Morocco. All IFIs stated that they are definitely interested in financing renewable energy projects.

GreenMax noted that the current financing consortia working on the CSP parabolic trough project consists of European financing institutions and the World Bank. For the CSP Tower project it would be important for US government financing institutions to be involved in designing the financing package. Financing is available from EXIM Bank and OPIC.

H. Social and Environmental Impact

Fulfilment of the region's growing energy needs is a key development impact of the project.

The proposed project is expected to reduce greenhouse gas emissions by replacing fossil fuel generated electricity with solar generated electricity, subsequently reducing CO2 emissions.

The proposed project will provide clean energy and reduce grid dependence on fossil fuel. The project is expected to be about 125MW. The project will be able to provide power to roughly 225,000 households in Europe, however considering the average electricity consumption in Morocco the 125MW would power closer to 1 million households.

Reduced carbon emissions and lower air pollution from displacing coal fired power plants is one of the most important environmental benefits from solar power generation. GreenMax estimates that CSP plants contribute to the reduction of greenhouse (CO2) gas emissions by 1.8 million tons for every 1GW produced annually (up to 335 kgs per 1 MWH of electricity produced). This is a major environmental benefit for the project on the region.

According to a European survey, for every 100MW installed 400 full-time equivalent manufacturing jobs will be created, 600 contractor and installation jobs will be created and 30 annual jobs in operations and maintenance will be created. It is widely accepted that for each construction job created four service jobs are created.

MASEN will develop several initiatives to understand the opinion and comments of local stakeholders of the project, including periodic meetings with land owners and local authorities.

MASEN has also conducted multiple initiatives to understand the opinion and comments of local communities, which clearly demonstrate an interest from the local population. Currently most of the population in the surrounding area of the project has limited access to electricity. Additionally the project is located in a low-income area.

The project's negative environmental impact is expected to be minimal or insignificant as the project is in the Sahara desert. As for fauna impact, some reptile species could be disrupted during the construction phase. These species will be identified as part of the Environmental Impact Assessment (EIA). As part of the development of the first phase of the Ouarzazate solar complex, MASEN has already conducted an environmental and social study, following Moroccan law which regulates the environmental permission process.

Moreover, the project is expected to have a significant positive effect on the environment, subsequent to the reduction of CO2 emissions, substitution of fossil fuel energy with solar energy, no air emissions, and no significant exposure to lubricants and other water or soil contaminants. Any potential negative impact will be addressed as part of the obligation of the developer in order to conform with the Environmental Impact Assessment.

Landscape alteration within the boundaries of the project could be important from the point of view of tourist activities. Therefore MASEN will ask for a letter of no objection to the project from the State Secretary of Tourism.

Additionally, the EIA usually includes preventive and mitigation measures to reduce environmental impacts that would occur during the construction and the operation phases.

I. Impact on US Labor

The project has the potential to generate more than $239 million in direct US exports, thereby generating substantial US employment opportunities.

None of the following factors are present in this proposed project:

A. Financial incentive to any business enterprise currently located in the United States for the purpose of inducing such an enterprise to relocate outside the United States if such incentive or inducement is likely to reduce the number of employees of such business enterprise in the United States because United States production in being replaced by such enterprise outside the United States.

B. Assistance for the purpose of establishing or developing in a foreign country any export processing zone or designated area in which the tax, tariff, labor, environment, and safety laws of that country do not apply, in part or in whole, to activities carried out within that zone or area.

C. Assistance for any project or activity that contributes to the violation of internationally recognized workers rights.

D. Direct assistance for establishing or expanding production of any commodity for export by any country other than the United States, if the commodity is likely to be in surplus on world markets at the time the resulting productive capacity is expected to become operative and if the assistance will cause substantial injury to United States producers of the same, similar, or competing commodity.

M. Recommendation

GreenMax Capital Advisors recommends that USTDA support this Technical Assistance by providing a grant to the Moroccan Agency for Solar Energy (MASEN) of $651,886 to execute the study. This would allow MASEN to hold the international tender for a CSP Tower solution within a year of commencing the study. MASEN is under pressure to construct and connect 500MW at the Ouarzazate site by 2015.

ANNEX 3

U.S. TRADE AND DEVELOPMENT AGENCY
Arlington, VA 22209-2131

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS

The purpose of USTDA's nationality, source, and origin requirements is to assure the maximum practicable participation of American contractors, technology, equipment and materials in the prefeasibility, feasibility, and implementation stages of a project.

USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):

Except as USTDA may otherwise agree, each of the following provisions shall apply to the delivery of goods and services funded by USTDA under this Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from host country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for implementation of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in host country are not subject to the above restrictions. USTDA will make available further details concerning these standards of eligibility upon request.

NATIONALITY:

1) Rule

Except as USTDA may otherwise agree, the Contractor for USTDA funded activities must be either a U.S. firm or a U.S. individual. Prime contractors may utilize U.S.

subcontractors without limitation, but the use of host country subcontractors is limited to 20% of the USTDA grant amount.

2) Application

Accordingly, only a U.S. firm or U.S. individual may submit proposals on USTDA funded activities. Although those proposals may include subcontracting arrangements with host country firms or individuals for up to 20% of the USTDA grant amount, they may not include subcontracts with third country entities. U.S. firms submitting proposals must ensure that the professional services funded by the USTDA grant, to the extent not subcontracted to host country entities, are supplied by employees of the firm or employees of U.S. subcontractor firms who are U.S. individuals.

Interested U.S. firms and consultants who submit proposals must meet USTDA nationality requirements as of the due date for the submission of proposals and, if selected, must continue to meet such requirements throughout the duration of the USTDA-financed activity. These nationality provisions apply to whatever portion of the Terms of Reference is funded with the USTDA grant.

3) Definitions

A "U.S. individual" is (a) a U.S. citizen, or (b) a non-U.S. citizen lawfully admitted for permanent residence in the U.S. (a green card holder).

A "U.S. firm" is a privately owned firm which is incorporated in the U.S., with its principal place of business in the U.S., and which is either (a) more than 50% owned by U.S. individuals, or (b) has been incorporated in the U.S. for more than three (3) years prior to the issuance date of the request for proposals; has performed similar services in the U.S. for that three (3) year period; employs U.S. citizens in more than half of its permanent full-time positions in the U.S.; and has the existing capability in the U.S. to perform the work in question.

A partnership, organized in the U.S. with its principal place of business in the U.S., may also qualify as a "U.S. firm" as would a joint venture organized or incorporated in the United States consisting entirely of U.S. firms and/or U.S. individuals.

A nonprofit organization, such as an educational institution, foundation, or association may also qualify as a "U.S. firm" if it is incorporated in the United States and managed by a governing body, a majority of whose members are U.S. individuals.

SOURCE AND ORIGIN:

1) Rule

In addition to the nationality requirement stated above, any goods (e.g., equipment and materials) and services related to their shipment (e.g., international transportation and insurance) funded under the USTDA Grant Agreement must have their source and origin in the United States, unless USTDA otherwise agrees. However, necessary purchases of goods and project support services which are unavailable from a U.S. source (e.g., local food, housing and transportation) are eligible without specific USTDA approval.

2) Application

Accordingly, the prime contractor must be able to demonstrate that all goods and services purchased in the host country to carry out the Terms of Reference for a USTDA Grant Agreement that were not of U.S. source and origin were unavailable in the United States.

3) Definitions

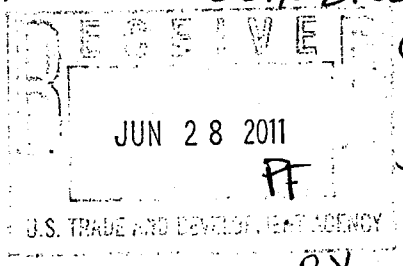
"Source" means the country from which shipment is made.

"Origin" means the place of production, through manufacturing, assembly or otherwise.

Questions regarding these nationality, source and origin requirements may be addressed to the USTDA Office of General Counsel.

ANNEX 4

Morocco 2011-210284



LZ JW CK HL PH PT JU MB EB RY SU PD

GRANT AGREEMENT

This Grant Agreement is entered into between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA") and the Moroccan Agency for Solar Energy ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Agreement US$642,156 ("USTDA Grant") to fund the cost of goods and services required for Technical Assistance ("TA") on the proposed MASEN Concentrated Solar Power Project ("Project") in Morocco ("Host Country").

1. USTDA Funding

The funding to be provided under this Grant Agreement shall be used to fund the costs of a contract between the Grantee and the U.S. firm selected by the Grantee ("Contractor") under which the Contractor will perform the TA ("Contract"). Payment to the Contractor will be made directly by USTDA on behalf of the Grantee with the USTDA Grant funds provided under this Grant Agreement.

2. Terms of Reference

The Terms of Reference for the TA ("Terms of Reference") are attached as Annex I and are hereby made a part of this Grant Agreement. The TA will examine the technical, financial, environmental, and other critical aspects of the proposed Project. The Terms of Reference for the TA shall also be included in the Contract.

3. Standards of Conduct

USTDA and the Grantee recognize the existence of standards of conduct for public officials, and commercial entities, in their respective countries. The parties to this Grant Agreement and the Contractor shall observe these standards, which include not accepting payment of money or anything of value, directly or indirectly, from any person for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the TA.

4. Grantee Responsibilities

The Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as local transportation, office space, and secretarial support.

5. USTDA as Financier

(A) USTDA Approval of Competitive Selection Procedures

Selection of the U.S. Contractor shall be carried out by the Grantee according to its established procedures for the competitive selection of contractors with advance notice of the procurement published online through *Federal Business Opportunities (www.fedbizopps.gov)*. Upon request, the Grantee will submit these contracting procedures and related documents to USTDA for information and/or approval.

(B) USTDA Approval of Contractor Selection

The Grantee shall notify USTDA at the address of record set forth in Article 17 below upon selection of the Contractor to perform the TA. Upon approval of this selection by USTDA, the Grantee and the Contractor shall then enter into a contract for performance of the TA. The Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the TA that they were not selected.

(C) USTDA Approval of Contract Between Grantee and Contractor

The Grantee and the Contractor shall enter into a contract for performance of the TA. This contract, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing. To expedite this approval, the Grantee (or the Contractor on the Grantee's behalf) shall transmit to USTDA, at the address set forth in Article 17 below, a photocopy of an English language version of the signed contract or a final negotiated draft version of the contract.

(D) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of the contract and any amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of funding the TA and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Grantee or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Grantee or USTDA.

(E) Grant Agreement Controlling

Regardless of USTDA approval, the rights and obligations of any party to the contract or subcontract thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and any contract or subcontract funded by the Grant Agreement, the Grant Agreement shall be controlling.

6. Disbursement Procedures

(A) USTDA Approval of Contract Required

USTDA will make disbursements of Grant funds directly to the Contractor only after USTDA approves the Grantee's contract with the Contractor.

(B) Contractor Invoice Requirements

The Grantee should request disbursement of funds by USTDA to the Contractor for performance of the TA by submitting invoices in accordance with the procedures set forth in the USTDA Mandatory Clauses in Annex II.

7. Effective Date

The effective date of this Grant Agreement ("Effective Date") shall be the date of signature by both parties or, if the parties sign on different dates, the date of the last signature.

8. TA Schedule

(A) TA Completion Date

The completion date for the TA, which is October 31, 2012, is the date by which the parties estimate that the TA will have been completed.

(B) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this Grant Agreement for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

9. USTDA Mandatory Clauses

All contracts funded under this Grant Agreement shall include the USTDA mandatory clauses set forth in Annex II to this Grant Agreement. All subcontracts funded or

partially funded with USTDA Grant funds shall include the USTDA mandatory clauses, except for clauses B(1), G, H, I, and J.

10. Use of U.S. Carriers

(A) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(B) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

11. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the TA and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to TA support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

12. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Grantee nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

13. Cooperation Between Parties and Follow-Up

The parties will cooperate to assure that the purposes of the Grant Agreement are accomplished. For five (5) years following receipt by USTDA of the Final Report (as defined in Clause I of Annex II), the Grantee agrees to respond to any reasonable inquiries from USTDA about the status or results of the Project, and upon receipt by the Grantee of the Final Report, will designate (by both title and organization) a point of contact for any such inquiries.

14. Implementation Letters

To assist the Grantee in the implementation of the TA, USTDA may, from time to time, issue implementation letters that will provide additional information about matters covered by the Grant Agreement. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by the Grant Agreement.

15. Recordkeeping and Audit

The Grantee agrees to maintain books, records, and other documents relating to the TA and the Grant Agreement adequate to demonstrate implementation of its responsibilities under the Grant Agreement, including the selection of contractors, receipt and approval of contract deliverables, and approval or disapproval of contractor invoices for payment by USTDA. Such books, records, and other documents shall be separately maintained for three (3) years after the date of the final disbursement by USTDA. The Grantee shall afford USTDA or its authorized representatives the opportunity at reasonable times to review books, records, and other documents relating to the TA and the Grant Agreement.

16. Representation of Parties

For all purposes relevant to the Grant Agreement, the Government of the United States of America will be represented by the U. S. Ambassador to Host Country or USTDA and Grantee will be represented by the Executive Advisor. The parties hereto may, by written notice, designate additional representatives for all purposes under the Grant Agreement.

17. Addresses of Record for Parties

Any notice, request, document, or other communication submitted by either party to the other under the Grant Agreement shall be in writing or through a wire or electronic medium which produces a tangible record of the transmission, such as a telegram, cable or facsimile, and will be deemed duly given or sent when delivered to such party at the following:

To: Nabil Saimi, PhD
Executive Advisor

MASEN – Moroccan Agency for Solar Energy
Extention du Siège de la CMR
Avenue Al Araar, Hay Riad
Rabat – Maroc
+212 (0)661 57 52 34
saimi@masen.ma

To: U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

All such communications shall be in English, unless the parties otherwise agree in writing. In addition, the Grantee shall provide the Commercial Section of the U.S. Embassy in Host Country with a copy of each communication sent to USTDA.

Any communication relating to this Grant Agreement shall include the following fiscal data:

Appropriation No.:	11 11/12 1001
Activity No.:	2011-21028A
Reservation No.:	2011227
Grant No.:	GH201121227

18. Termination Clause

Either party may terminate the Grant Agreement by giving the other party thirty (30) days advance written notice. The termination of the Grant Agreement will end any obligations of the parties to provide financial or other resources for the TA, except for payments which they are committed to make pursuant to noncancellable commitments entered into with third parties prior to the written notice of termination.

19. Non-waiver of Rights and Remedies

No delay in exercising any right or remedy accruing to either party in connection with the Grant Agreement shall be construed as a waiver of such right or remedy.

20. U.S. Technology and Equipment

By funding this TA, USTDA seeks to promote the project objectives of the Host Country through the use of U.S. technology, goods, and services. In recognition of this purpose, the Grantee agrees that it will allow U.S. suppliers to compete in the procurement of technology, goods and services needed for Project implementation.

21. Confidentiality

USTDA will maintain, in accordance with applicable law, the confidentiality of information that is designated as confidential by the Grantee. The Contractor will inform the Grantee of all information transmitted to USTDA.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the Government of the United States of America and the Moroccan Agency for Solar Energy, each acting through its duly authorized representative, have caused this Agreement to be signed in the English language in their names and delivered as of the day and year written below. In the event that this Grant Agreement is signed in more than one language, the English language version shall govern.

For the Government of the United States of America

By:_____

Date: 30/05/11

Witnessed:

By:_____

For the Moroccan Agency for Solar Energy

By:_____

Date: 30/05/2011

Witnessed:

By:_____

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

Annex II

USTDA Mandatory Contract Clauses

A. USTDA Mandatory Clauses Controlling

The parties to this contract acknowledge that this contract is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and the Moroccan Agency for Solar Energy ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("Contractor") to perform the Technical Assistance ("TA") for the MASEN Concentrated Solar Power project ("Project") in Morocco ("Host Country"). Notwithstanding any other provisions of this contract, the following USTDA mandatory contract clauses shall govern. All subcontracts entered into by Contractor funded or partially funded with USTDA Grant funds shall include these USTDA mandatory contract clauses, except for clauses B(1), G, H, I, and J. In addition, in the event of any inconsistency between the Grant Agreement and any contract or subcontract thereunder, the Grant Agreement shall be controlling.

B. USTDA as Financier

(1) USTDA Approval of Contract

All contracts funded under the Grant Agreement, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing in order to be effective with respect to the expenditure of USTDA Grant funds. USTDA will not authorize the disbursement of USTDA Grant funds until the contract has been formally approved by USTDA or until the contract conforms to modifications required by USTDA during the contract review process.

(2) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of this contract and amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of financing the TA and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Client or USTDA from asserting any right they might have against the Contractor, or relieve the

Contractor of any liability which the Contractor might otherwise have to the Client or USTDA.

C. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the TA and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to TA support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

D. Recordkeeping and Audit

The Contractor and subcontractors funded under the Grant Agreement shall maintain, in accordance with generally accepted accounting procedures, books, records, and other documents, sufficient to reflect properly all transactions under or in connection with the contract. These books, records, and other documents shall clearly identify and track the use and expenditure of USTDA funds, separately from other funding sources. Such books, records, and documents shall be maintained during the contract term and for a period of three (3) years after final disbursement by USTDA. The Contractor and subcontractors shall afford USTDA, or its authorized representatives, the opportunity at reasonable times for inspection and audit of such books, records, and other documentation.

E. U.S. Carriers

(1) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(2) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

F. Workman's Compensation Insurance

The Contractor shall provide adequate Workman's Compensation Insurance coverage for work performed under this Contract.

G. Reporting Requirements

The Contractor shall advise USTDA by letter as to the status of the Project on March 1st annually for a period of two (2) years after completion of the TA. In addition, if at any time the Contractor receives follow-on work from the Client, the Contractor shall so notify USTDA and designate the Contractor's contact point including name, telephone, and fax number. Since this information may be made publicly available by USTDA, any information which is confidential shall be designated as such by the Contractor and provided separately to USTDA. USTDA will maintain the confidentiality of such information in accordance with applicable law.

H. Disbursement Procedures

(1) USTDA Approval of Contract

Disbursement of Grant funds will be made only after USTDA approval of this contract. To make this review in a timely fashion, USTDA must receive from either the Client or the Contractor a photocopy of an English language version of a signed contract or a final negotiated draft version to the attention of the General Counsel's office at USTDA's address listed in Clause M below.

(2) Payment Schedule Requirements

A payment schedule for disbursement of Grant funds to the Contractor shall be included in this Contract. Such payment schedule must conform to the following USTDA requirements: (1) up to twenty percent (20%) of the total USTDA Grant amount may be used as a mobilization payment; (2) all other payments, with the exception of the final payment, shall be based upon contract performance milestones; and (3) the final payment may be no less than fifteen percent (15%) of the total USTDA Grant amount, payable upon receipt by USTDA of an approved Final Report in accordance with the specifications and quantities set forth in Clause I below. Invoicing procedures for all payments are described below.

(3) Contractor Invoice Requirements

USTDA will make all disbursements of USTDA Grant funds directly to the Contractor. The Contractor must provide USTDA with an ACH Vendor Enrollment Form (available from USTDA) with the first invoice. The Client shall request disbursement of funds by USTDA to the Contractor for performance of the contract by submitting the following to USTDA:

(a) Contractor's Invoice

The Contractor's invoice shall include reference to an item listed in the Contract payment schedule, the requested payment amount, and an appropriate certification by the Contractor, as follows:

(i) For a mobilization payment (if any):

"As a condition for this mobilization payment, the Contractor certifies that it will perform all work in accordance with the terms of its Contract with the Client. To the extent that the Contractor does not comply with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA. "

(ii) For contract performance milestone payments:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(iii) For final payment:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. Specifically, the Contractor has submitted the Final Report to the Client, as required by the Contract, and received the Client's approval of the Final Report. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(b) Client's Approval of the Contractor's Invoice

(i) The invoice for a mobilization payment must be approved in writing by the Client.

(ii) For contract performance milestone payments, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement."

(iii) For final payment, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and terms and conditions of the USTDA Grant Agreement. The Final Report submitted by the Contractor has been reviewed and approved by the Client. "

(c) USTDA Address for Disbursement Requests

Requests for disbursement shall be submitted by courier or mail to the attention of the Finance Department at USTDA's address listed in Clause M below.

(4) Termination

In the event that the Contract is terminated prior to completion, the Contractor will be eligible, subject to USTDA approval, for reasonable and documented costs which have been incurred in performing the Terms of Reference prior to termination, as well as reasonable wind down expenses. Reimbursement for such costs shall not exceed the total amount of undisbursed Grant funds. Likewise, in the event of such termination, USTDA is entitled to receive from the Contractor all USTDA Grant funds previously disbursed to the Contractor (including but not limited to mobilization payments) which exceed the reasonable and documented costs incurred in performing the Terms of Reference prior to termination.

I. USTDA Final Report

(1) Definition

"Final Report" shall mean the Final Report described in the attached Annex I Terms of Reference or, if no such "Final Report" is described therein, "Final Report" shall mean a substantive and comprehensive report of work performed in accordance with the attached Annex I Terms of Reference, including any documents delivered to the Client.

(2) Final Report Submission Requirements

The Contractor shall provide the following to USTDA:

(a) One (1) complete version of the Final Report for USTDA's records. This version shall have been approved by the Client in writing and must be in the English language. It is the responsibility of the Contractor to ensure that confidential information, if any, contained in this version be clearly marked. USTDA will maintain the confidentiality of such information in accordance with applicable law.

and

(b) One (1) copy of the Final Report suitable for public distribution ("Public Version"). The Public Version shall have been approved by the Client in writing and must be in the English language. As this version will be available for public distribution, it must not contain any Confidential Information. For the purpose of the present clause, "Confidential Information" means all information collected by the Contractor for the purpose of the performance of the Terms of Reference set out in Annex I concerning the CSP Project except information:

which the Grantee specifies in writing that said information is not confidential;

or

which is or becomes available to the public other than by breach of this clause; or
which is disclosed to the Contractor by a third-party, without restrictions as to use or disclosure; or
which is independently developed by employees of the Contractor without reliance on the Confidential Information received; or
which is required to be disclosed by court order or other legal process or in response to other governmentally imposed reporting or disclosure obligations.

If the report in (a) above contains no Confidential Information, it may be used as the Public Version. In any event, the Public Version must be informative and contain sufficient Project detail to be useful to prospective equipment and service providers. When the Grantee specifies in writing which information is not confidential, the Grantee will ensure that the information that can be included in the Public Version of the Final Report is informative and contains sufficient Project detail to be useful to prospective equipment and service providers.

and

(c) Two (2) CD-ROMs, each containing a complete copy of the Public Version of the Final Report. The electronic files on the CD-ROMs shall be submitted in a commonly accessible read-only format. As these CD-ROMs will be available for public distribution, they must not contain any confidential information. It is the responsibility of the Contractor to ensure that no confidential information is contained on the CD-ROMs.

The Contractor shall also provide one (1) copy of the Public Version of the Final Report to the Foreign Commercial Service Officer or the Economic Section of the U.S. Embassy in Host Country for informational purposes.

(3) Final Report Presentation

All Final Reports submitted to USTDA must be paginated and include the following:

(a) The front cover of every Final Report shall contain the name of the Client, the name of the Contractor who prepared the report, a report title, USTDA's logo, USTDA's mailing and delivery addresses. If the complete version of the Final Report contains confidential information, the Contractor shall be responsible for labeling the front cover of that version of the Final Report with the term "Confidential Version." The Contractor shall be responsible for labeling the front cover of the Public Version of the Final Report with the term "Public Version." The front cover of every Final Report shall also contain the following disclaimer:

"This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U. S. Government. The opinions, findings, conclusions or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA. USTDA makes no representation about, nor does it

accept responsibility for, the accuracy or completeness of the information contained in this report."

(b) The inside front cover of every Final Report shall contain USTDA's logo, USTDA's mailing and delivery addresses, and USTDA's mission statement. Camera-ready copy of USTDA Final Report specifications will be available from USTDA upon request.

(c) The Contractor shall affix to the front of the CD-ROM a label identifying the Host Country, USTDA Activity Number, the name of the Client, the name of the Contractor who prepared the report, a report title, and the following language:

"The Contractor certifies that this CD-ROM contains the Public Version of the Final Report and that all contents are suitable for public distribution."

(d) The Contractor and any subcontractors that perform work pursuant to the Grant Agreement must be clearly identified in the Final Report. Business name, point of contact, address, telephone and fax numbers shall be included for Contractor and each subcontractor.

(e) The Final Report, while aiming at optimum specifications and characteristics for the Project, shall identify the availability of prospective U.S. sources of supply. Business name, point of contact, address, telephone and fax numbers shall be included for each commercial source.

(f) The Final Report shall be accompanied by a letter or other notation by the Client which states that the Client approves the Final Report. A certification by the Client to this effect provided on or with the invoice for final payment will meet this requirement.

J. Modifications

All changes, modifications, assignments or amendments to this contract, including the appendices, shall be made only by written agreement by the parties hereto, subject to written USTDA approval.

K. TA Schedule

(1) TA Completion Date

The completion date for the TA, which is October 31, 2012, is the date by which the parties estimate that the TA will have been completed.

(2) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this contract for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

L. Business Practices

The Contractor agrees not to pay, promise to pay, or authorize the payment of any money or anything of value, directly or indirectly, to any person (whether a governmental official or private individual) for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the TA. The Client agrees not to receive any such payment. The Contractor and the Client agree that each will require that any agent or representative hired to represent them in connection with the TA will comply with this paragraph and all laws which apply to activities and obligations of each party under this Contract, including but not limited to those laws and obligations dealing with improper payments as described above.

M. USTDA Address and Fiscal Data

Any communication with USTDA regarding this Contract shall be sent to the following address and include the fiscal data listed below:

U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

Fiscal Data:

Appropriation No.:	11 11/12 1001
Activity No.:	2011-21028A
Reservation No.:	2011227
Grant No.:	GH201121227

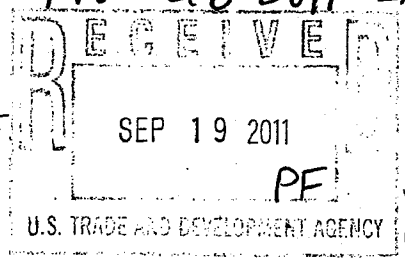
N. Definitions

All capitalized terms not otherwise defined herein shall have the meaning set forth in the Grant Agreement.

O. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Client nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

Morocco 2011-21028A



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AMENDMENT NO. 1

TO

GRANT AGREEMENT
BETWEEN
THE U.S. TRADE AND DEVELOPMENT AGENCY
AND
MOROCCAN AGENCY FOR SOLAR ENERGY

Fiscal Data:

Appropriation No.:	11 11/12 1001
Activity No.:	2011-21028A
Reservation No.:	2011227
Grant No.:	GH201121227

The Grant Agreement, dated May 30, 2011 between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA"), and the Moroccan Agency for Solar Energy ("Grantee") for Technical Assistance ("TA") on the MASEN Concentrated Solar Power Project is hereby amended as follows:

1. Terms of Reference

The full Terms of Reference for the Grant Agreement, including this Amendment No. 1, are set forth in Annex I hereto, which hereby replaces Annex I of the Grant Agreement in its entirety.

2. USTDA Funding

Under the existing Grant Agreement, USTDA agreed to provide a US$642,156 grant for the Study. USTDA hereby agrees to provide the Grantee an additional US$9,730 to fund the cost of goods and services required to perform the Study as amended. The total USTDA funding available to the Grantee for the full Study is now US$651,886.

3) Fiscal Data

All communication relating to this Amendment No. *1*, including all invoices, should include the following fiscal data:

Appropriation No.: 11 11/12 1001
Activity No.: 2011-21028A
Reservation No.: 2011227
Grant No.: GH201121227

IN WITNESS WHEREOF, the U.S. Trade and Development Agency and the Moroccan Agency for Solar Energy, each acting through its duly authorized representative, have caused this Agreement to be signed in the English language in their names and delivered as of the day and year written below.

For the U.S. Trade and Development Agency

By: _____

Date: 9/12/11

For the Moroccan Agency for Solar Energy

By: _____

Date: 15 Sept. 2011

ANNEX 5

ANNEX I

Terms of Reference

Objective:

In November 2009, the Kingdom of Morocco announced an ambitious solar energy plan of 2,000 MW of installed solar capacity by 2020. The Moroccan Agency for Solar Energy (MASEN) was established in March 2010 to manage the Moroccan Solar Plan (under Moroccan law 57/09). Five potential sites have been pre-selected for the development of solar power plants: Ouarzazate, Ain Béni Mathar, Foum Al Oued, Boujdour and Sebkhat Tah. The Ouarzazate complex is targeted to have 500 MW of various solar technologies in operation by 2015.

After an open tender was conducted by MASEN in 2010, CSP Parabolic Trough technology was selected for Phase I of the 500 MW Ouarzazate complex. One of the subsequent phases of the Ouarzazate complex will be dedicated to CSP Tower technologies.

The purpose of the Technical Assistance is to assist MASEN with the design and development of the CSP Tower phase of the Ouarzazate complex.

The Technical Assistance will be focused on the development of minimum functional and performance specifications as part of the tender documents for a CSP Tower procurement. In order to prepare the specifications for the tender, the Technical Assistance will include an analysis of existing CSP Tower technologies, most notably their state of development, benchmarked performance between the different tower technologies and other thermal solar technologies, investment and operational cost, associated risks both during construction and operation, suitability to grid conditions, land requirement, water usage, cooling options and environmental impacts. The Technical Assistance will also provide recommendations on the optimal plant configuration in term of plant size and capacity of integrated storage at a level of detail sufficient to draft the minimum functional and performance specifications for tendering.

The Grantee shall be responsible for forming a Steering Committee ("Steering Committee"), composed of three representatives appointed by MASEN.

The purpose of the Steering Committee will be to coordinate the Technical Assistance with the U.S. Contractor ("Contractor"). It is expected that the members of the Steering Committee shall convene, at their own cost (remotely by teleconference as necessary) for the Project Kick-Off meeting. The Steering Committee shall provide feedback to the Contractor in an expedited manner, responding within 2 weeks of each request. The

Grantee shall oversee the Steering Committee and be responsible for its inputs into the Study.

Task 1: Review of Existing Data and Site Assessment

The Contractor shall travel to Morocco within 6 weeks of USTDA's approval of the Contract. The Contractor will conduct a Project kick-off meeting with the Grantee. During the trip, the Contractor shall also meet with representatives of the National Electricity Office (ONE) and visit the site of the project.

The Contractor shall review and assess existing project documents for the Ouarzazate 500MW complex, including at minimum:

- Ouarzazate Solar Resource assessment;
- Ouarzazate Geotechnical Analysis (in French);
- Ouarzazate Water Analysis Data;
- Ouarzazate Environmental Impact Analysis (in French);
- Historical Meteorological Data;
- Initial Site Plan (English);
- Plan of Development (PoD);
- Grid and Interconnection Documentation (in French); and
- World Bank Emissions Guidelines (public)
- Phase I tender documents (on request)

All of the above documents shall be provided by the Grantee within one week of signing the Contract with the Contractor.

Based on the document and data review and following discussions with the Grantee, the Contractor shall prepare a detailed work plan during the Project kick-off meetings. The plan will include an outline and agreed structure for determining the power plant parameters, functional specifications and inputs required for economic modeling of the specified power plant. The work plan will become the basic project management tool and will contain specific deadlines and the overall implementation

The second part of this Task shall be specific to the Ouarzazate site, where the Consultant shall provide an evaluation of the Ouarzazate site for the development of such project, with a specific focus on drainage as well as a preliminary site plan. The Contractor shall review the existing Plan of Development for common infrastructure and services to be provided by the Grantee and the Contractor shall evaluate the physical and site constraints, including but not limited to:

- Flatness of the terrain and degree of leveling required;

- Flood risks, flood management/drainage required;
- Access to the transmission grid;
- Access to water supply;
- Logistical access for equipment supply (will roads need to be built, modified);
- Geotechnical and soil suitability for foundations and substructure; and
- Water quality standards and suitability for use in operations.

The Contractor shall make a recommendation on the overall suitability of CSP Tower technology for the Ouarzazate site and if the recommendation is negative, provide a detailed rationale and suggestions for the characteristics necessary to select an alternate site.

Deliverable: The Contractor shall provide a report describing the work performed under Task 1, including the overall suitability of the Ouarzazate site, and a detailed Project Work Plan. The Contractor shall prepare a general evaluation matrix for selecting potential sites, as well as a specific analysis of the Ouarzazate site including preliminary drainage and site plans suitable for CSP Tower technology.

Task 2: Technology Review of CSP Tower Solutions

The Contractor shall conduct a comprehensive assessment of existing CSP Tower technology providers, including an historical review of each tower technology, on-going research and development projects regarding the tower technologies, and an assessment of the future development of the different tower technologies.

The assessment shall include a detailed analysis of the storage capacities for each tower technology, a review of major equipments providers, and a qualitative assessment of the advantages and limitations of each CSP Tower technology.

The Technology Review shall also include an analysis of particular requirements for each of the CSP Tower technologies, including, but not limited to, land aperture, implementation criteria, and a cost/benefit analysis, including a performance review of each technology. The assessment shall also include benchmarked performance comparisons between each of the CSP Tower technologies and other thermal solar technologies, investment and operational cost comparisons, and a comparison of risks during both construction and operation.

Deliverable: The Contractor shall provide a preliminary CSP Tower technology comparative assessment.

Task 3: Analysis of Water, Cooling and Storage Options

CSP Tower solutions have a number of considerations specific to the selection of a particular technology. The Contractor shall conduct an analysis of three primary considerations to evaluate when selecting a CSP Tower solution: Water Supply, Cooling and Storage. The Contractor shall use the analysis, together with the site information, to develop technical, functional and performance parameters for inclusion in the tender document. The Contractor shall develop rationale and selection criteria with respect to Water Supply, Cooling and Storage, for assessing different CSP Tower technologies and their applicability to the conditions found at the Ouarzazate site.

3.1 Water consumption and usage

The Contractor shall analyze existing data on water resources at the site, including geotechnical and hydrological studies. The Contractor shall provide an assessment of water quality for use during construction, operation and maintenance of the solar power plant. The Contractor shall specify water-related standards and parameters for inclusion in the tender document.

The Contractor shall provide size and production - specific water consumption ratios for each of the different CSP Tower technologies and calculate the total water requirement covering all water usage (make-up, cleaning and cooling) for the recommended configuration, taking into account the quality of the water on-site.

The Contractor shall provide a specific analysis on advanced mirror cleaning techniques with limited or no water options; water recycling options; and mixed water usage within the facility. The Contractor shall recommend and develop applicable specifications for the O&M contract, to be included as part of the tender document.

3.2 Cooling options

Worldwide experience with dry cooling is limited. Therefore, the Contractor shall provide a detailed analysis of use of dry cooling versus wet cooling, in the specific case of the proposed project. The analysis shall assess the different cooling options and their suitability, economics and development issues for the recommended size of the Ouarzazate CSP tower project. The Contractor shall develop criteria for analyzing the different cooling options to be used during the evaluation of the bids. The cooling options analysis shall also include a recommendation on the optimal solution for the project and the Contractor shall develop technical and functional specifications of the optimal solution for inclusion in the tender document.

3.3 Thermal Storage options

The Contractor shall conduct a detailed analysis of the latest advances and commercial availability of different storage technologies and their suitability to the CSP Tower technologies available in the market. The analysis shall comprise technical characteristics of recent storage installations found at operational CSP Tower sites; economics and cost of commercially available options; and alternatives to salt power storage.

The Contractor shall develop criteria for analyzing the different storage options to be used during the evaluation of the bids. The storage options analysis shall also include a decision (tool, function or map) providing the optimum storage solution (number of hours) as a function of the adopted power block size. The Contractor shall develop technical and functional specifications for energy storage to be included as part of the tender document.

The storage solution (technology, number of hours of storage, etc) shall be economically modeled in Task 10 and the impact of storage on the grid shall be assessed in Task 4. Additionally the storage solution recommended shall be further analyzed from a risk perspective in Task 6 and from a tender document perspective in Task 8.

Deliverable: The Contractor shall provide a report describing the work performed under Task 3, including determination of the optimal size and storage requirements of a CSP Tower power plant at the Ouarzazate site based on Tasks 1, 2 and 3. The report shall include the development of technical and functional specifications for inclusion in the tender documents covering the recommended cooling, water consumption, and power storage options for the specified plant size. Additionally, the Contractor shall provide a selection methodology and criteria for evaluating cooling, water consumption, and power solutions presented by bidders.

Task 4: Grid Impact Study and Interconnection Assessment

The Contractor shall analyze the proposed grid connection point and connection conditions required by the Grantee and ONE. Additionally, the Contractor shall work with ONE to conduct a grid impact assessment to ascertain whether the grid can accept a CSP Tower solution as specified in Task 3 (estimated to be between 125-200 MW) at the proposed connection point.

The Contractor shall assess the capacity of ONE's grid to absorb intermittent energy, and assess the impact on the grid based on the storage option specified in Task 3.

The Contractor shall also provide a conceptual design for the grid interconnection and estimate all associated costs including connection fees, grid enhancements, new transformers/substations to be built, installation of new lines, etc. If grid upgrades and

improvements are required to be undertaken by ONE, the Contractor shall determine the scope and cost of the necessary upgrades.

The Contractor should take into consideration the new substation to be built by ONE for the Ouarzazate 500 MW complex and any aspects of the Plan of Development relevant to grid connection and evacuation of power.

The Contractor will develop technical documentation related to the grid specifications to be provided to bidders by both the Grantee and ONE. Documentation will be provided in both English and French.

Deliverable: The Contractor shall prepare a grid impact and connection conditions report. Additionally the Contractor shall develop the conceptual design and cost estimates for the interconnection to be included as part of the tender documents. The report will clearly distinguish the work to be included as part of the Plan of Development and any additional interconnection work to be required by the bidders.

Task 5: Preliminary Environmental Impact Assessment

The Contractor shall prepare a preliminary Environmental Impact Assessment ("EIA") for the Project in accordance with current Moroccan environmental laws and World Bank standards. The Contractor shall assess the pertinent laws, ordinances, and directives that apply to the construction of IPP's in Morocco. The EIA should summarize the applicable codes and standards that apply (both international and locally). The assessment shall address at a minimum land use, water use, noise, visibility, emissions, archaeology, endangered species and sand storms.

The Contractor may also review the preliminary EIA from the feasibility study conducted for Phase I of the Ouarzazate project. The Phase I EIA documents are in French.

Deliverable: The Contractor shall deliver the Preliminary Environmental Impact Assessment Report.

Task 6: Technical Risk Analysis

The Contractor shall conduct a technical risk analysis, outlining the specific natural risks of the selected site, such as seismic loads, geological study samples, flood risk and sand storms, to ensure structural stability. The technical risk study shall consider input from turbine manufacturers, heliostats manufacturers, receiver manufacturers, and insurance companies, as well as the opinions of at least two independent CSP structural design

consultants. This analysis will include a detailed analysis of the specific risks associated with the specific project in terms of technology risk, construction risk, and development risk.

The Contractor shall also conduct a detailed technical risk analysis on the recommended storage solution for the CSP Tender. The technical risk study on storage shall include an analysis of operational storage solutions at existing operational CSP Tower facilities and it shall also assess all risks associated with the construction and operation of the specified storage solution in Task 3. The analysis will include a comparison of two options for implementation of the storage solution at Ouarzazate: 1) tendering for an IPP power plant with storage and 2) tendering for an IPP power plant without storage, with the storage tendered separately as an R&D project for the government of Morocco.

Deliverable: The Contractor shall prepare a technical risk analysis report for inclusion in the tender documents. The report shall have a section dedicated to the analysis and risk mitigation recommendations regarding power storage.

Task 7: Legal, Regulatory, and Institutional Review

The Contractor shall review existing Moroccan Government policies for the energy sector, including the Moroccan Solar Plan, the Energy Law, permitting requirements applicable to CSP Tower power plants, electricity production license requirements, construction regulations and other constraints (right-of-way, zoning ordinances) that bidders need to consider when responding to the CSP Tower tender. The Contractor shall prepare a Regulatory Database and Permitting Process Description.

In particular, the Regulatory Database and Permitting Process Description should focus on construction regulations, Independent Power Producer (IPP) rules and regulations, interconnection conditions, environmental regulations, land and water use and regulations and procedures governing power purchase agreements. The Regulatory Database and Permitting Process Description shall be included in the CSP Tower tender documentation.

The Contractor shall provide a detailed legal and commercial review of the proposed Power Purchase Agreement (PPA) structure to be signed between the IPP and the Grantee. This review shall provide critical analysis of the PPA to highlight any commercial terms or inherent risks which could prove problematic for CSP Tower technology bidders and offer suggested alternative provisions that could be more readily accepted. The review shall include both the PPA between the Grantee and the IPP and the PPA between the Grantee and the National Electricity Company, ONE.

Deliverable: The Contractor shall provide a Regulatory Database and Permitting Process Description. The Contractor shall also provide a critical review of the proposed PPA between the IPP and the Grantee.

Task 8: Development of Minimum Functional and Performance Specifications

Based on the Contractor's recommended CSP Tower power plant size, storage capacity, cooling option and grid connection conditions (Tasks 3 & 4) the Grantee will agree on a CSP Tower power plant configuration for the CSP Tower tender. The Contractor shall develop minimum functional and performance specifications for the project configuration agreed by the Grantee (estimated to be between 125-250 MW) to be constructed and operated at the Ouarzazate complex. The specification shall define the overriding technical conditions and design in the form of a performance requirement (capacity, capacity factor, reliability, availability) and shall become part of the CSP Tower tender documentation.

The Contractor shall develop a site layout defining the borders of the site, specifying access and service roads, facilities and administration, and the preferred location of the technologies, with particular reference to the maximum permissible slope of the site. The layout shall specify the area available for solar fields and heliostats, as well as the power blocks and the interconnection point within the site boundaries. The specification shall define the minimum requirements for the bidders' general site usage arrangements and site plans including details of elevation, construction and maintenance access ways, administration and maintenance facilities, security fencing, lighting, auxiliary fuel supplies (where applicable) and other matters as determined by the Contractor as being technically relevant to the tender documents.

The specifications shall set out the minimum standards for the bidders to define their development and construction program including design phases, definition of terminal points, interconnection requirements, plan of construction specific to their technologies, construction manpower phasing throughout the construction program, traffic and noise pattern definition by the bidders, safety and environmental practices, hazardous materials management and storage, and other matters relevant to the construction program of a large utility scale CSP power plant using Tower technology.

The specifications shall develop the standards and requirements for the ongoing operation and maintenance of the recommended project configuration including safety, environmental protection, control and monitoring, security, performance and testing of the completed CSP power plant.

The specifications shall define in detail the requirements for the bidders to prepare and submit a defined test and commissioning program for the CSP power plant, including definition of the operating guarantees and mitigation proposals should the guarantees not be achieved.

The specifications shall define the minimum electrical interconnection requirements of the bidders' proposed offer. The specification will define the electrical data that must be provided by the bidders as part of the tendering process including the requirement for the bidder to develop and submit the specific interconnection details relevant to the respective CSP Tower technology.

Specification Contents and Format:

The minimum functional and performance specification (MFPS) shall be based on having the following minimum requirements in an outline form, with performance requirements addressing:

- Overall general technical conditions and design requirements;
- Plant layout;
- Site conditions;
- Environmental constraints;
- Minimum technological and construction requirements;
- Civil design and construction requirements;
- Functional specification for solar equipment (heliostats, tower receivers, tower design);
- Functional specification for thermal storage equipment;
- Functional specification for major electrical equipment (generator step-up transformers (GSU), auxiliary unit transformers, etc.);
- Electrical characteristics for connection to the power grid;
- Electrical interconnection requirements and point of interconnect characteristics;
- Interconnection requirements to the transmission line and to the substation;
- Water interconnection and quality/quantity conditions;
- Construction and development program;
- Performance, operating, maintenance and safety standards;
- Operational guarantees;
- Testing and commissioning guidelines;
- Power station test outline of requirements;
- List of design features to be provided by the bidder to enable proper bidding evaluation;
- Guarantees to be provided by the bidder (generation limits, plant reliability, etc.);
- Spare parts inventory of major components;
- List of documents to be provided by the bidders; and
- Major components datasheet to be filed by the bidders.

Deliverable: The Contractor shall provide a report of the Minimal Functional and Performance Specifications (MFPS) for the recommended CSP Tower power plant specific to the Ouarzazate site for inclusion in the tender documents.

Task 9: Preparation of Tender Documents

The Contractor shall assist the Grantee with the development of tender documentation for a CSP Tower procurement. Working together with the Grantee, the Contractor will recommend the optimal tender language, taking into consideration that storage technologies are not well developed worldwide.

The Contractor will develop a framework for structuring the tender so that IPP's can bid "with or without" a storage solution. This will entail developing solutions that allow for the equitable evaluation of bids, and the Contractor shall develop a framework that provides an alternative for a bidder to develop a storage solution together with the Grantee.

Deliverable: The Contractor shall provide an analysis and recommendations for structuring the tender to allow for different types of bid responses: CSP Tower with storage and CSP Tower without storage. The recommendations shall include methods for evaluating the two types of bid responses.

Task 10: Economic and Financial Analysis

Taking into account the analyses performed by the Contractor in Tasks 1-6, the Contractor shall provide an economic and financial analysis evaluating and comparing the cost of producing power for the recommended CSP Tower power plant configuration at the Ouarzazate site utilizing at least two different CSP Tower technologies. The Contractor shall also consider and run scenarios on different potential financing structures for implementation of the Project.

The Contractor shall use data from the analyses conducted pursuant to these Terms of Reference to develop the energy production projection, capital cost estimates and operating expense estimates.

The Contractor shall develop its own assumptions for macroeconomic data and financing terms based on:

- Research and discussions with the National Bank of Morocco, the Moroccan Ministry of Finance and the International Monetary Fund concerning macro-economic assumptions.
- Discussions about concessional debt and grant funding with the World Bank and other International Financial Institutions ("IFI").
- Discussions about carbon credits and the Clean Development Mechanism (CDM) with carbon finance institutions including Natsource, Ecosecurities, Syndicatum, Cantor CO2e and other appropriate carbon finance institutions.
- Discussions with potential bidders.
- Discussions with commercial lenders.

The Contractor shall perform sensitivity analyses on the Capital Expenditure (CAPEX), Operational Expenditure (OPEX), energy production projections, financing inputs and macro-economic data. The sensitivity analysis shall model changes to these key input variables as well as a series of events that could impact the financial return of the projects such as PPA payment risks, weather conditions and technical breakdowns.

The Contractor shall also perform a sensitivity analysis on the technical parameters, including the impact of the number of storage hours, cooling options and variation in DNI. A sensitivity analysis on financial parameters shall be conducted, including foreign exchange risk, DSCR, debt-equity ratios, inflation and cost of capital. The Contractor shall also consider the potential impact of financial and tax incentives such as accelerated

depreciation, income tax free solar energy production zones, and import duty or VAT exemptions on CSP related equipment, which could reduce the tariff level while providing attractive investment returns.

The primary output of the economic model shall be a determination of the expected costs of producing power from the two different technologies evaluated based on various combinations of assumptions.

It is important for the economic evaluation performed to meet all standard requirements typically imposed by international lending institutions on such projects. Standard economic indicators shall be provided for all configurations and sensitivities, such as economic and financial internal rates of return, return on capital employed, cost/benefit ratio and payback period. The Contractor shall provide an "Economic Model" prepared in MS Excel showing all assumptions and calculations for the economic and sensitivity analysis.

Deliverable: The Contractor shall construct the economic model for two different CSP Tower technologies, including Income Statement, Balance Sheet and Cash Flow Statement accompanied by commentary. Additionally, the Contractor shall create a detailed matrix showing the cost of producing power and the project IRR's based on different financing, technical and cost scenarios. A detailed list of assumptions and respective outputs from the sensitivity analysis will be provided.

Task 11: Development Impact Assessment

The Contractor shall report on the potential development impact of the recommended size and technology of the plant. The Contractor shall focus on the local economic development outcomes produced if the Project is implemented. While specific focus shall be paid to the immediate impact of the Project, the Contractor shall include, where appropriate, any additional development and social benefits of the Project, including spin-off and demonstration effects. The Contractor's analysis of potential benefits should be as concrete and detailed as possible.

The development impact factors are intended to provide the Project's decision-makers and interested parties with a broader view of the Project's potential effects on the Host Country. The Contractor shall provide estimates of the Project's potential benefits in the following areas:

- **Infrastructure/Industry** - The Contractor shall provide a statement on the infrastructure and industry impacts giving a brief synopsis.

- **Market-Oriented Reforms** - The Contractor shall provide a description of any regulation, law or institutional changes that are recommended and the effect they would have if implemented.

- **Human Capacity Building** - The Contractor shall address the number and type of positions that would be needed to construct and operate the proposed Project as well as the number of people who will receive training and a brief description of the training program.

- **Technology Transfer and Productivity Enhancement** - The Contractor shall provide a description of any advanced technologies that will be implemented as a result of the Project. A quantitative description shall be provided of any efficiency that will be gained.

- **Research and Development** - The Contractor shall identify a list of potential R&D opportunities within the CSP Tower technology field where Morocco could invest, and shall also identify and recommend potential partnerships (between Moroccan and US companies/institutions).

- **Other** - The Contractor shall identify any other development benefits of the Project, including any spin-off or demonstration effects.

Deliverable: The Contractor shall deliver the Development Impact Assessment Report.

Task 12: Final Report Preparation and Presentation

The Contractor shall prepare a Draft Final Report that includes all analysis and findings performed under Tasks 1-11 above. The Contractor shall provide the Draft Final Report to the Grantee for review and discussion.

The Contractor shall meet with the Grantee to present and review the Draft Report findings and agree on required report revisions. The Contractor then shall submit a Final Report in accordance with Clause I of Annex II of the Grant Agreement. The Final Report shall be a substantive and comprehensive report of work performed to carry out all of the tasks set forth in the Terms of Reference and shall include, among other things, an Executive Summary and all deliverables. Each task of the Terms of Reference shall form a separate chapter of the Final Report.

Deliverable: The Contractor shall provide to the Grantee six (6) French language copies and one (1) English language copy of the Public Version of the Final Report, and six (6) French language copies and one (1) English language copy of the Complete Version of

the Final Report, including all annexes. The Contractor shall also provide one (1) electronic version of both the Complete and Public versions of the Final Report to the Grantee in the French language. The Contractor shall provide copies of the Final Report to USTDA in English in accordance with Clause I of Annex II of the Grant Agreement.

Notes:

(1) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.

(2) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or Confidential Information.

(3) The Contractor acknowledges that all information provided by the Grantee, pursuant to these Terms of Reference, except the information that the Grantee expressly agreed in writing to be inserted in the Final Report, (the "Confidential Information") is confidential, and the Contractor undertakes (and undertakes to procure that its directors and subcontractors or advisors appointed by it, as the case may be,) will not use the Confidential Information for any purpose other than in connection with the purpose of the completion of the tasks set out in the Terms of Reference. In the event such Confidential Information is misused by the Contractor, the latter will be entitled to damages as the Grantee deems it appropriate in the event such breach has a material adverse effect on the Grantee. No USTDA funds shall be used to pay any such damages. The Contractor shall ensure that the proper internal procedures are established to maintain confidentiality within its internal organization and that their employees or members likely to be exposed to Confidential Information will comply with the requirements of confidentiality contained in these Terms of Reference.
The obligations and restrictions contained in this clause shall however not apply to information:

- **which is or becomes available to the public other than by breach of this clause; or**
- **which is disclosed to the Contractor by a third-party, without restrictions as to use or disclosure; or**
- **which is independently developed by employees of the Contractor without reliance on the Confidential Information received; or**
- **which is required to be disclosed by court order or other legal process or in response to other governmentally imposed reporting or disclosure obligations.**

The Contractor will inform the Grantee of all information transmitted to USTDA.

Notwithstanding the provisions of note 3 above, no provision of note 3 affects in any way (i) the Contractor's obligation to provide the Final Report to USTDA and the U.S. Embassy in Morocco as provided for by Clause I of the USTDA Mandatory

Contract Clauses contained in Annex II to the Grant Agreement, or (ii) the rights of USTDA and the U.S. Embassy in Morocco to use and make available copies of the Final Report. The Public Version of the Final Report is the only version that will be provided to the U.S. Embassy in Morocco. USTDA will maintain the confidentiality of the Complete Version of the Final Report in accordance with applicable law.

(4) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, nonexclusive right to use and distribute the Final Report and all work products that are developed under these Terms of Reference.

ANNEX 6

USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

U.S. Firm Information Form

This form is designed to enable the U.S. Trade and Development Agency ("USTDA") to obtain information about entities and individuals proposed for participation in USTDA-funded activities. Information in this form is used to conduct screening of entities and individuals to ensure compliance with legislative and executive branch prohibitions on providing support or resources to, or engaging in transactions with, certain individuals or entities with which USTDA must comply.

USTDA Activity Number [*To be completed by USTDA*]							
Activity Type [*To be completed by USTDA*]		Feasibility Study		Technical Assistance		Other (specify)	
Activity Title [*To be completed by USTDA*]							
Full Legal Name of U.S. Firm							
Business Address (street address only)							
Telephone		Fax		Website			
Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.							
Please provide a list of directors and principal officers as detailed in Attachment A. Attached?		Yes					
Type of Ownership		Publicly Traded Company					
		Private Company					
		Other (please specify)					
If Private Company or Other (if applicable), provide a list of shareholders and the percentage of their ownership. In addition, for each shareholder that owns 15% or more shares in U.S. Firm, please complete Attachment B.							
Is the U.S. Firm a wholly-owned or partially owned subsidiary?		Yes					
		No					
If so, please provide the name of the U.S. Firm's parent company(s). In addition, for any parent identified, please complete Attachment B.							
Is the U.S. Firm proposing to subcontract some of the proposed work to another firm?		Yes					
		No					
If yes, U.S. Firm shall complete Attachment C for each subcontractor. Attached?		Yes					
		Not applicable					
Project Manager							
Name		Surname					
		Given Name					
Address							
Telephone							
Fax							
Email							
Negotiation Prerequisites							
Discuss any current or anticipated commitments which may impact the ability of the U.S. Firm or its subcontractors to complete the Activity as proposed and reflect such impact within the project schedule.							
Identify any specific information which is needed from the Grantee before commencing negotiations.							

U.S. Firm may attach additional sheets, as necessary.

U.S. Firm's Representations									
U.S. Firm shall certify to the following (or provide any explanation as to why any representation cannot be made):									
1. U.S. Firm is a *[check one]*		Corporation		LLC		Partnership		Sole Proprietor		Other:
duly organized, validly existing and in good standing under the laws of the State of: [insert state]									
The U.S. Firm has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the USTDA Activity. The U.S. Firm is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.									
2. The U.S. Firm has included herewith, a copy of its Articles of Incorporation (or equivalent charter or document issued by a designated authority in accordance with applicable laws that provides information and authentication regarding the legal status of an entity) and a Certificate of Good Standing (or equivalent document) issued within 1 month of the date of signature below by the State of: [insert state]									
The U.S. Firm commits to notify USTDA and the Grantee if it becomes aware of any change in its status in the state in which it is incorporated. USTDA retains the right to request an updated certificate of good standing.									
3. Neither the U.S. Firm nor any of its principal officers have, within the three-year period preceding the submission of this proposal, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.									
4. Neither the U.S. Firm, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 3 above.									
5. There are no federal or state tax liens pending against the assets, property or business of the U.S. Firm. The U.S. Firm, has not, within the three-year period preceding the submission of this proposal, been notified of any delinquent federal or state taxes in an amount that exceeds US$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.									
6. The U.S. Firm has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself of its debts under any bankruptcy, insolvency or other similar law. The U.S. Firm has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.									
7. The U.S. Firm certifies that it complies with USTDA Nationality, Source, and Origin Requirements and shall continue to comply with such requirements throughout the duration of the USTDA-funded activity. The U.S. Firm commits to notify USTDA and the Grantee if it becomes aware of any change which might affect U.S. Firm's ability to meet the USTDA Nationality, Source, and Origin Requirements.									
The U.S. Firm shall notify USTDA if any of the representations are no longer true and correct.									
U.S. Firm certifies that the information provided in this form is true and correct. U.S. Firm understands and agrees that the U.S. Government may rely on the accuracy of this information in processing a request to participate in a USTDA-funded activity. If at any time USTDA has reason to believe that any person or entity has willfully and knowingly provided incorrect information or made false statements, USTDA may take action under applicable law. The undersigned represents and warrants that he/she has the requisite power and authority to sign on behalf of the U.S. Firm.									

Name		Signature	
Title			
Organization		Date	

ATTACHMENT A

USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

U.S. Firm Information Form – Directors and Principal Officers

Provide a list of all directors and principal officers (e.g., President, Chief Executive Officer, Vice-President(s), Secretary and Treasurer). Please provide full names including surname and given name.

USTDA Activity Number [*To be completed by USTDA*]	
Activity Title [*To be completed by USTDA*]	
Full Legal Name of Entity	

Title	Name		
(e.g., Director, President, Chief Executive Officer, Vice-President(s), Secretary, Treasurer) ** Please place an asterisk (*) next to the names of those principal officers who will be involved in the USTDA-funded activity*	**Surname**	**Given Name**	**Middle Name**

ATTACHMENT B

USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

U.S. Firm Information Form – Shareholder(s) and Parent Company(s)

If applicable, U.S. Firm provided a list of shareholders and the percentage of their ownership. This form shall be completed for each shareholder that owns 15% or more shares in U.S. Firm, as well as any parent corporation of the U.S. Firm ("Shareholder"). In addition, this form shall be completed for each shareholder identified in Attachment B that owns 15% or more shares in any Shareholder, as well as any parent identified in Attachment B.

USTDA Activity Number [*To be completed by USTDA*]			
Activity Title [*To be completed by USTDA*]			
Full Legal Name of U.S. Firm			
Full Legal Name of Shareholder			
Business Address of Shareholder (street address only)			
Telephone number		Fax Number	
Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.			
Country of Shareholder's Principal Place of Business			
Please provide a list of directors and principal officers as detailed in Attachment A. Attached?		Yes	
Type of Ownership		Publicly Traded Company	
		Private Company	
		Other	
If applicable, provide a list of shareholders and the percentage of their ownership. In addition, for each shareholder that owns 15% or more shares in Shareholder, please complete Attachment B.			
Is the Shareholder a wholly-owned or partially owned subsidiary?		Yes	
		No	
If so, please provide the name of the Shareholder's parent(s). In addition, for any parent identified, please complete Attachment B.			

Shareholder may attach additional sheets, as necessary.

ATTACHMENT C

USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

Subcontractor Information Form

This form is designed to enable the U.S. Trade and Development Agency ("USTDA") to obtain information about entities and individuals proposed for participation in USTDA-funded activities. Information in this form is used to conduct screening of entities and individuals to ensure compliance with legislative and executive branch prohibitions on providing support or resources to, or engaging in transactions with, certain individuals or entities with which USTDA must comply.

USTDA Activity Number [*To be completed by USTDA*]	
Activity Title [*To be completed by USTDA*]	
Full Legal Name of Prime Contractor U.S. Firm ("U.S. Firm")	
Full Legal Name of Subcontractor	
Business Address of Subcontractor (street address only)	
Telephone Number	
Fax Number	
Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.	

Subcontractor Point of Contact		
Name	Surname	
	Given Name	
Address		
Telephone		
Fax		
Email		

Subcontractor's Representations										
Subcontractor shall provide the following (or any explanation as to why any representation cannot be made), made as of the date of the proposal:										
1. Subcontractor is a *[check one]*		Corporation		LLC		Partnership		Sole Proprietor		Other
duly organized, validly existing and in good standing under the laws of:	[insert state (if U.S.) or country]									
The subcontractor has all the requisite corporate power and authority to conduct its business as presently conducted, to participate in this proposal, and if the U.S. Firm is selected, to execute and deliver a subcontract to the U.S. Firm for the performance of the USTDA Activity and to perform the USTDA Activity. The subcontractor is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.										
2. Neither the subcontractor nor any of its principal officers have, within the three-year period preceding the submission of the Offeror's proposal, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.										
3. Neither the subcontractor, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.										
4. There are no federal or state tax liens pending against the assets, property or business of the subcontractor. The subcontractor, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds $3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.										
5. The subcontractor has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The subcontractor has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.										
6. The Subcontractor certifies that it complies with the USTDA Nationality, Source, and Origin Requirements and shall continue to comply with such requirements throughout the duration of the USTDA-funded activity. The Subcontractor commits to notify USTDA, the Contractor, and the Grantee if it becomes aware of any change which might affect U.S. Firm's ability to meet the USTDA Nationality, Source, and Origin Requirements.										
The selected Subcontractor shall notify the U.S. Firm, Grantee and USTDA if any of the representations included in its proposal are no longer true and correct.										
Subcontractor certifies that the information provided in this form is true and correct. Subcontractor understands and agrees that the U.S. Government may rely on the accuracy of this information in processing a request to participate in a USTDA-funded activity. If at any time USTDA has reason to believe that any person or entity has willfully and knowingly provided incorrect information or made false statements, USTDA may take action under applicable law. The undersigned represents and warrants that he/she has the requisite power and authority to sign on behalf of the Subcontractor.										
Name				Signature						
Title										
Organization				Date						